Triggers for Change

Realising a 'Design for Sustainable Behaviour' Web-Tool for Influencing Sustainable Tourism in Cornwall.

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Στους γονείς μου,
που φρούρησαν πιστά το παραμύθι μου.

To my parents,
persistent guardians of my fairytale.

"All of humanity's problems stem from man's inability to sit quietly in a room alone."
– Blaise Pascal (French philosopher, 1623-1662).

" Two things are infinite: the universe and human stupidity; and I'm not sure about the universe."
– Albert Einstein (Theoretical physicist, 1879-1955).

Declaration of originality

I declare that this thesis was written by myself and that this work has not been submitted for any other degree or professional qualification.

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Cornwall, January 2018

Abstract

Tourism in Cornwall represents over 24% of Cornwall's annual GDP. It is "the county's largest single industry", providing work for one in five Cornish inhabitants, and is responsible for almost a quarter of the money the county makes each year (Objective One, 2001, p. 10). However, in its current form, this vibrant but carbon-intensive business sector does not contribute to low-carbon development in Cornwall. It remains un-sustainable in a number of environmental, social and economic ways (Cornwall Sustainable Tourism Project, 2011a; 2014b). Thus, there is a recognized need for "sustainable tourism" (Butler, 1999), also defined as "ethical and responsible tourism" (Goodwin et al, 2003), due to the global growth of tourism and its various damaging by-products.

According to Moscardo (1996) and Pearce (2005), one of the most effective ways to achieve sustainability in tourism is by influencing the behaviour and attitudes of visitors and tourism operators. Therefore, distinguishing Tourism as a form of consumption, this research project studies tourists as consumers, and aims at encouraging sustainable consumption in order to promote sustainable tourism in Cornwall.

Since human behaviour, not technology, lies at the heart of sustainable consumption, this project addresses the challenge of promoting sustainable tourism from a behavioural point of view, not a technical one; understanding and influencing the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns. More specifically, due to the fact that sustainable consumption requires sustainable behaviour not just at the 'point-of-sale' but most importantly during the 'use-phase' of a product/service/system's lifecycle (Pettersen and Boks, 2008, p.119), this project focuses on influencing CO_2-related Human-Artefact interactions within the context of Cornish accommodation-provision industry, the second largest sector of Tourism that contributes to CO_2 emissions and climate change (Cohen et al, 2014).

In the contemporary framework of sustainable design, many authors argue for the importance of design as a powerful means of furthering behaviour change towards more sustainable practices (Lilley, 2009; Thackara, 2005; Walker, 2006; Bhamra et al. 2008). Thus, this research project addresses social and environmental issues as they pertain to Tourism and aims to demonstrate the importance of Sustainable Design as a medium to change touristic behaviour, lessen its impact and support sustainability in Tourism. As original design research, this thesis draws upon a multi-disciplinary literature review, including the emerging field of 'Design for Sustainable Behaviour' (DfSB), Behavioural Economics (Dolan et al's 'MINDSPACE model'), Environmental and Social Psychology, Social Science (Cialdini's 'Six Universal Laws of Influence'), and Community-based Social Marketing, bringing together their developed

understandings on what it takes to communicate and influence human behaviour, along with illustrated examples, into a comprehensive chart called "Elements of Persuasion".

In turn, "Elements of Persuasion" creates the basis upon which new knowledge is consolidated in the form of a webtool called "Triggers for Change"; a digital platform, developed and evaluated through an iterative Human-Centred Design process, that aims to become an online resource framework for the Cornish tourism industry, that improves the persuasiveness of their sustainability communications with tourists visiting Cornwall. This would therefore minimise the industry's contribution to CO_2 emissions and climate change and, thus, further Sustainable Tourism in Cornwall.

Original contribution to knowledge

This practice-based design research draws upon an extensive multi-disciplinary literature review, including the emerging field of Design for Sustainable Behaviour (DfSB), Behavioural Economics (Dolan et al's 2012 'MINDSPACE model'), Environmental and Social Psychology, Social Science (Cialdini's 2007 'Six Universal Laws of Influence'), and Community-based Social Marketing. By identifying and synthesing insights from relevant literature, along with critical reflection and usefully illustrated examples, this thesis creates a novel table called "Elements of Persuasion": a comprehensive and accessible summary of principles and techniques for communicating and influencing sustainable human behaviour.[1]

Furthermore, this project is a creative, context-based research of thinking and doing, which means that it illustrates the gap in the literature related to conventional approaches to changing human behaviour and addresses the need for a contemporary way to influence behaviour-change with particular respect to Sustainable Tourism in the context of Cornwall. Thus, this thesis claims that the synthesis of the literature review leading to the novel chart of "Elements of Persuasion" used in the context of "Sustainable Tourism in Cornwall" is something that has not been done before and can be considered *the most important contribution* of this thesis to knowledge and human understanding.

In addition, through reasoned debate which follows a logical train of thought via main arguments related to the study, the theoretical body of Elements of Persuasion is practically used in the context of Sustainable Tourism in Cornwall through the project's design response: "Triggers for Change" webtool translates all the complex research from Elements of Persuasion table into simple and accessible objects of text-based communication (i.e., linguistic devices) by tailoring the language to the project's intended place and people (accommodation-providers of Cornwall). More specifically, 'Triggers for Change' webtool is a design response, designed specifically for the Cornish hospitality industry, developed and evaluated through an iterative and practice-led Human Centred Design methodology, that facilitates an accessible and user-friendly way to apply complex persuasion principles and techniques to the industry's sustainability communications with tourists visiting Cornwall, in order to minimise the industry's contribution to CO_2 emissions and climate change, thus, furthering Sustainable Tourism in Cornwall.

This means that, taking into consideration the relationship between the medium and the message,[2] and since this thesis argues about a context-based contribution to knowledge, it would be erroneous to neglect the role of the design response in the thesis' overall

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[1] See also section "5.3 Elements of Persuasion".

[2] See also sections "4.3.6.1 Messenger (The Principle of Authority)" and "3.3.2 The Power of Words: HOW we say something, matters".

contribution to human understanding; in other words, acknowledging the role of the medium in helping to fully answer the question 'What do we know now that we didn't know before?'. "Triggers for Change" webtool is the way (the context/the medium) through which "Elements of Persuasion" (the content/the message) will be transmitted to, and utilised by, Cornish accommodation-providers (users/message-receivers).

Notably, Triggers for Change may not be a technological breakthrough (i.e. disruptive innovation), nonetheless *it is* the tool that will be practically used to promote Sustainable Tourism in Cornwall. And since the way a tool is designed influences the effectiveness of the tool-holder's work[3] then different design responses will have different effectiveness in furthering sustainable behaviour change, even if their content (in this case, Elements of Persuasion) remains the same. This means that the effectiveness of the novel table of Elements of Persuasion in the context of Sustainable Tourism in Cornwall is directly linked to the usability of the project's design response: Triggers for Change webtool. Therefore, it is argued that the final innovative design-response of this practice-based design research, the medium, can be considered *a part of* the value this thesis adds to human understanding.

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[3] As Carr (2010, p.209) argues: "The tight bonds we form with our tools go both ways. Even as our technologies become extensions of ourselves, we become extensions of our technologies. [...] Nietzsche's experience with his typewriter provides a particularly good illustration of the way technologies exert their influence on us. [...] he also sensed that he was becoming a thing like it, that his typewriter was shaping his thoughts."

Personal Statement

Notably, this thesis is a study in 'changing human behaviour'; more specifically, a study in influencing the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns in order to minimise the Tourism-industry's contribution to CO_2 emissions and, thus, climate change, therefore furthering Sustainable Tourism in Cornwall. It is important to highlight that this study does not adopt a "Procrustean" approach[4] to make the human being 'compatible' to vested interests of capitalism or neoliberal ambitions of the "Little Man".[5] On the contrary, this study follows a "Promethean" approach[6] that aims to help people make the environmentally-friendly choice in order to promote the common good and address concerns of human purpose and fulfilment, helping humans move towards a better future.

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[4] According to Ancient Greek mythology, Procrustes forced humans to fit the size of his bed, by cutting off or stretching the parts of each individual that were, respectively, too long or too short for his standard of what is 'normal'.

[5] Referring to Vilhelm Reih's 1945 "Listen, Little Man!", a Little Man can be considered an ego-centric, shortsighted and shallow person that is ignorant of the possibilities and depths of the human spirit.

[6] According to Ancient Greek mythology, the Titan Prometheus gave fire to humans (that typically was only a privilege amongst Gods) to help mankind live a better life.

Summary of Intention

In introductory **Chapter 1**, the project discussed theory beyond the design discipline in order to provide a clear contextual and theoretical grounding for this practice-based design research. Following an in-depth analysis of literature on **"Tourism"**, Chapter 1 acknowledged that Tourism (in Cornwall) in its current form is a carbon-intensive industry and a major contributor to CO_2 emissions and climate change, and *identified the need to* challenge conventional patterns of producing and consuming the touristic experience in order to further Sustainable Tourism (in Cornwall). Following a critical reflection on the paradox of promoting Sustainable Behaviour in mass-tourism, Chapter 1 uncovered the research question:

> *How can we promote Sustainable Tourism in Cornwall?*

Taking a critically reflective approach, **Chapter 2** provided evidence of the author's understanding of the area of **"Sustainable Consumption"** and how particular texts and theoretical models are appropriate for this research project. Chapter 2 *identified the widely recognised need to* encourage sustainable consumption and described how the behaviour of tourists is a major determinant of the tourism industry's contribution to CO_2 emissions and, thus, climate change. By doing so, this Chapter addressed the research question identified in Chapter 1. This means that influencing the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns, means to promote Sustainable Tourism in Cornwall. Notably, Chapter 2 *identified the need to* focus on a behavioural point of view, not a technical one, in order to further Sustainable Tourism in Cornwall. The above led to the research question:

> *How can we influence the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patters?*

Chapter 3 acknowledged the role of **"Design"** in furthering human behaviour change towards desired practices, but also *illustrated the need to* challenge conventional approaches of design, where by default a tangible artefact is considered 'the solution' to a problem (and design is only regarded as a way of doing), and adopt contemporary, **"Sustainable Design"** approaches, where design is also a way of thinking at an intangible, systemic level. By *acknowledging the need to* move away from our evangelic obsession with material-centred solutions and employ a more dematerialising, Product/Service/System approach to influence the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns during CO_2-related Human-Artefact interactions within the context of Cornish

accommodation-provision, Chapter 3 provided a comprehensive contextual review of **"Communication Design"**, bringing together and analysing contemporary theoretical approaches and principles for communicating and influencing human behaviour towards intended patterns. By doing so, it addressed the research question identified in the previous chapter. This means that Communication Design is used as a medium to influence the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns and, thus, promote Sustainable Tourism in Cornwall. Last, this Chapter *identified the need* to emphasise a values-based approach to communicating and influencing sustainable behaviour of tourists visiting Cornwall; an approach that challenges conventional overreliance on Self-Enhancing (extrinsic) values and energises tourists' Self-Transcendent (intrinsic) values. The above led to the research questions:

>*What kind of words?*

>*Which tone of language is appropriate for the context of Tourism?*

Chapter 4 explored the contemporary field of **"Behavioural Economics"** and discussed how "hidden quirks, judgemental biases, and apparent irrationalities" are leading factors that can characterise everyday human decision-making (Payne, 2012, preface). This means that following the identification of Communication-Design as this project's medium for changing human behaviour, this design research employed language and words that derive from contextual factors for influencing human behaviour, thus adopted contemporary approaches to exploring, explaining and changing human behaviour, viewing individuals as "social animals" (Okasha et al, 2012, p.2), in order to *address the identified need* to help the Cornish Tourism industry to improve its sustainability communications by helping them "[get] at the heart of asking a question using the right words." (Payne, 2012, p.12). This created a novel table of **"Elements of Persuasion"**: a comprehensive and accessible summary of principles and techniques for communicating and influencing sustainable human behaviour.
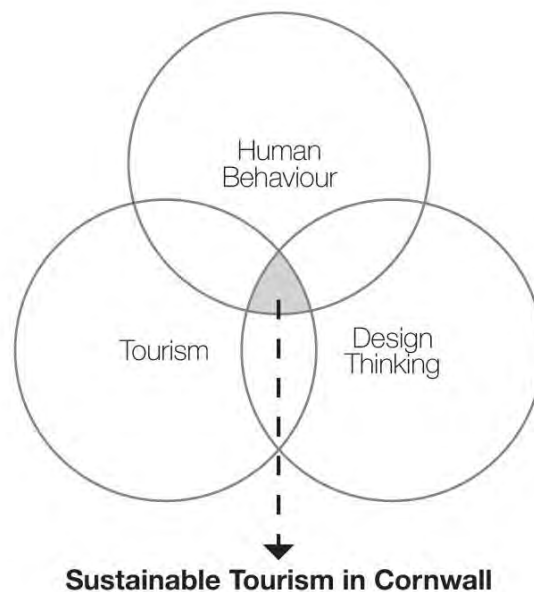
Based on the key conclusions from all the literature sections, this research aims to develop a communication-design based approach to behaviour change (through Elements of Persuasion that are informed by contextual factors), at the intangible, systemic level via Product/Service/Systems, with a focus on function rather than a particular tangible product. This led to the research question:

> *What kind of delivery platform would be appropriate for applying and disseminating Elements of Persuasion influence strategies in order to support and*
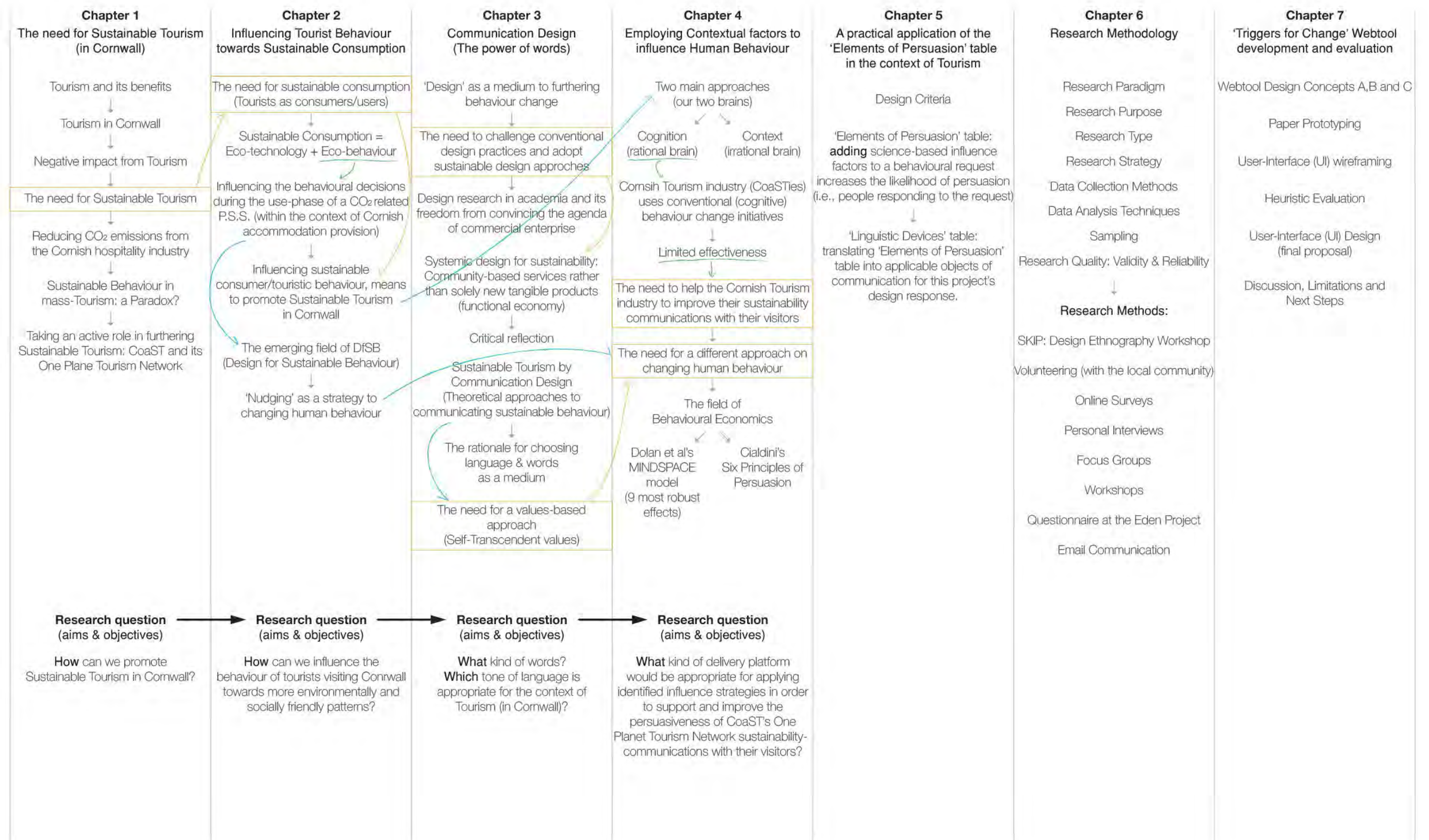
improve the persuasiveness of CoaST's One Planet Tourism Network sustainability-communications with their visitors?

Following the examination of a befitting research methodology and the recognition of this project's aims and objectives in Chapters 5 and 6, **Chapter 7** consolidates the findings of this practice-based design research in the form of a design response called **"Triggers for Change"**: a **webtool**, developed and evaluated through an iterative Heuristic Evaluation design process, which serves both as an online resource framework for the Tourism sector, as well as a digital platform for popular discourse. 'Triggers for Change' was designed as an accessible, user-friendly webtool for the Cornish Tourism industry that aims to improve the persuasiveness of accommodation-providers' sustainability communications with their visitors, therefore minimising the industry's contribution to CO_2 emissions and climate change, and, thus, furthering Sustainable Tourism in Cornwall.

Human
Behaviour

Tourism

Design
Thinking

Sustainable Tourism in Cornwall

Thesis overview
Main points from each chapter

Chapter 1
The need for Sustainable Tourism (in Cornwall)

Tourism and its benefits
↓
Tourism in Cornwall
↓
Negative impact from Tourism
↓
The need for Sustainable Tourism
↓
Reducing CO_2 emissions from the Cornish hospitality industry
↓
Sustainable Behaviour in mass-Tourism: a Paradox?
↓
Taking an active role in furthering Sustainable Tourism: CoaST and its One Plane Tourism Network

Chapter 2
Influencing Tourist Behaviour towards Sustainable Consumption

The need for sustainable consumption (Tourists as consumers/users)
↓
Sustainable Consumption = Eco-technology + Eco-behaviour
↓
Influencing the behavioural decisions during the use-phase of a CO_2 related P.S.S. (within the context of Cornish accommodation provision)
↓
Influencing sustainable consumer/touristic behaviour, means to promote Sustainable Tourism in Cornwall
↓
The emerging field of DfSB (Design for Sustainable Behaviour)
↓
'Nudging' as a strategy to changing human behaviour

Chapter 3
Communication Design (The power of words)

'Design' as a medium to furthering behaviour change
↓
The need to challenge conventional design practices and adopt sustainable design approches
↓
Design research in academia and its freedom from convincing the agenda of commercial enterprise
↓
Systemic design for sustainability: Community-based services rather than solely new tangible products (functional economy)
↓
Critical reflection
↓
Sustainable Tourism by Communication Design (Theoretical approaches to communicating sustainable behaviour)
↓
The rationale for choosing language & words as a medium
↓
The need for a values-based approach (Self-Transcendent values)

Chapter 4
Employing Contextual factors to influence Human Behaviour

Two main approaches (our two brains)
↓
Cognition (rational brain) — Context (irrational brain)
↓
Cornish Tourism industry (CoaSTies) uses conventional (cognitive) behaviour change initiatives
↓
Limited effectiveness
↓
The need to help the Cornish Tourism industry to improve their sustainability communications with their visitors
↓
The need for a different approach on changing human behaviour
↓
The field of Behavioural Economics
↓
Dolan et al's MINDSPACE model (9 most robust effects) — Cialdini's Six Principles of Persuasion

Chapter 5
A practical application of the 'Elements of Persuasion' table in the context of Tourism

Design Criteria

'Elements of Persuasion' table: adding science-based influence factors to a behavioural request increases the likelihood of persuasion (i.e., people responding to the request)
↓
'Linguistic Devices' table: translating 'Elements of Persuasion' table into applicable objects of communication for this project's design response.

Chapter 6
Research Methodology

Research Paradigm

Research Purpose

Research Type

Research Strategy

Data Collection Methods

Data Analysis Techniques

Sampling

Research Quality: Validity & Reliability

Research Methods:

SKIP: Design Ethnography Workshop

Volunteering (with the local community)

Online Surveys

Personal Interviews

Focus Groups

Workshops

Questionnaire at the Eden Project

Email Communication

Chapter 7
'Triggers for Change' Webtool development and evaluation

Webtool Design Concepts A,B and C

Paper Prototyping

User-Interface (UI) wireframing

Heuristic Evaluation

User-Interface (UI) Design (final proposal)

Discussion, Limitations and Next Steps

Research question (aims & objectives) →

How can we promote Sustainable Tourism in Cornwall?

Research question (aims & objectives) →

How can we influence the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns?

Research question (aims & objectives) →

What kind of words?
Which tone of language is appropriate for the context of Tourism (in Cornwall)?

Research question (aims & objectives)

What kind of delivery platform would be appropriate for applying identified influence strategies in order to support and improve the persuasiveness of CoaST's One Planet Tourism Network sustainability-communications with their visitors?

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This thesis was created mostly inside the quiet room of Falmouth University's Woodlane library; other places of creation include: buses, trains, train stations, aeroplanes, airports, ships, Universities, libraries, hospitals, parks, graveyards, cafes, UK cities, Greek islands. Always wearing earplugs.

It has been a wonderful journey. Thank you all for sticking with me.

Chapter 1: The need for Sustainable Tourism (in Cornwall)

"Tourism, like fire, can cook your food or burn down your house."

– Asian proverb

1.1 Summary of Chapter 1

Keywords: *tourism, tourist, accommodation-provision, CO_2 emissions, climate change, sustainable tourism, ethical tourism, one planet tourism, Cornwall.*

The big issue that this research project explores is the environmental impact created by the carbon-intensive industry of Cornish Tourism; a business activity that employs more than 4000 businesses and houses more than 4.5 million staying visitors. Chapter 1 discusses theory beyond the design discipline in order to provide a clear contextual and theoretical grounding for the design approach. By doing so, this Chapter identifies the problem with the current form of Tourism and illustrates the need to challenge conventional patterns of producing and consuming the touristic experience, in order to create a shift towards more environmentally and socially friendly practices and, thus, further sustainability in Tourism (in Cornwall). More specifically, this Chapter introduces:

- the positive and negative impact of the industry of Tourism, focusing on Tourism in Cornwall

- the need to focus on furthering Sustainable Tourism practices (reducing/eliminating CO_2 emissions and contribution to climate change) within the accommodation-provision sector of the Cornish tourism industry

- the project's business partner: Cornwall Sustainable Tourism project (CoaST Ltd.), who supported this research and provided access to its "One Planet Tourism Network"; a network consisting of more than 3100 members who take an active role in promoting sustainable practices in Tourism

- the notion that part of the problem is the lack of a generally accepted definition of what is "Sustainable Tourism", as well as the plethora of statements that misuse and abuse the term

- a discussion on the reasons why trying to encourage sustainable behaviour in mass-tourism can be regarded as the paradox of this research project.

1.2 Tourism and its benefits

According to Hornby's (2007) Oxford Advanced Learner's Dictionary, 'Tourism' is defined as: "the business activity connected with providing accommodation, services and entertainment for people who are visiting a place for pleasure." Lane (2008, p.4) explains that Tourism "as a major industry begins in the post war period. UN World Tourism Organization statistics begin in 1950, when 25 million international travellers were recorded."

In our days, Tourism is regarded as "the largest migration in the history of humankind, performed yearly by more than 10% of the world's population." (Budeanu, 2007, p.499). With "more than 850 million tourists" travelling yearly, Tourism is "[d]esired worldwide for its potential to generate income and economic growth" (WTTC, 2007. In: Budeanu, 2007, p.501) and is understandably considered "the world's largest industry", affecting and being affected by all aspects of our lives: food, transport, accommodation, procurement, energy, waste, water, wildlife, natural environment, retail, people and lifestyles (Archer et al, 1994. In: Theobald, 2004., p.79).

In fact, as Budeanu (2007, p.503) explains, "[c]hoosing the annual holiday is a major event for a household, being one of the most important expenses in a year". Moreover, Ram et al (2014, p.43) argue that "although the 'tourist experience' may have different expressions (e.g. backpacking, luxury travels or family vacations), its foundations and motivations are universal [...] change, novelty and social relations". On that note, Cohen (1972, p.167) argues that, in its totality, the experience of modern tourism is a combination of strangeness and familiarity, and identifies four types of tourists according to their degree of willingness to embrace or escape their protective "environmental bubble":

- The organized mass tourist ("This tourist type buys a package-tour as if it were just another commodity in the modern mass market"; "Familiarity is at a maximum, novelty at a minimum.")
- The individual mass tourist ("the experience of novelty is somewhat greater, though it is often of the routine kind.")
- The explorer ("Though novelty dominates, the tourist does not immerse himself completely in his host society.")
- The drifter ("Novelty is here at its greatest, familiarity disappears almost completely.")[7]

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[7] According to Cohen (1972, p.175-177), "The drifter is [...] the true rebel of the tourist establishment and the complete opposite of the mass tourist" because he/she "escapes the isolation and artificiality the tourism system imposes on the mass tourist."

In short, according to Objective One (2001, p.8), Tourism can:

- generate wealth
- create jobs
- promote entrepreneurship
- provide social and environmental benefits
- support local diversity and cultural traditions

Notably, taking into consideration the xenophobic reactions of most European nations to the recent refugee crisis, if one had to choose a benefit of Tourism (see Table 1 below) in order to promote the common good, that would be its capacity to remove "barriers of language, race, preference, religion, ideology, taste and distance, creating a global feeling." (UNWTO World Tourism Organization, 2011).

Positive Economic Effects

- Tourism creates business turnover, household income, employment, government revenue

- Tourism generates employment and income in the less developed regions of a country where alternative opportunities for development are more limited

- Tourism provides a monetary incentive for the preservation and continuance of many local crafts

- Tourist hotels can create a market for local produce

Positive Political Effects

- International tourism promotes peace and understanding between different nations

- Domestic tourism can act as an integrating force strengthening national sentiment

- The mixing of people from different regions of a country can produce a better understanding of each other's way of life

Positive Sociocultural Effects

- Tourism can provide an impetus for the preservation of ancient cultures

Positive Environmental & Ecological Effects

- International and domestic tourism is a positive force in helping to conserve the environment of the holiday regions

Table 1. Benefits from Tourism (adapted from Archer et al, 1994. In: Theobald, 2004).

1.3 Tourism in Cornwall

Tourism is currently supporting over three million jobs in the UK (British Tourist Authority, 2013), offering tremendous potential for cultural exchange, entrepreneurialism, leadership and creative innovation. In the last decade, Cornwall has "emerged as one of the world's iconic destinations" (Cornwall Council, 2011a). Considering that Cornwall has (Objective One, 2001, p.19):

- among the largest number of English Heritage properties
- among the largest number of National Trust properties
- a range and diversity of Church Architecture and trails (Truro cathedral is one of the most visited cathedrals in Britain)
- among the largest number of mining heritage sites (including a proposed World Heritage Site)
- the largest and finest collection of maritime gardens in the country,

one can appreciate why Tourism in Cornwall represents over 24% of Cornwall's annual GDP[8] and is considered "the county's largest single industry", being responsible for almost a quarter of the money the county makes each year, providing work for one in five Cornish inhabitants (Objective One, 2001, p.10). More specifically, Tourism in Cornwall remains seasonal, with around 1 visitor for every 2 residents in peak summer seasons (Objective One, 2001, p.10), "generating approximately £950 million of expenditure each year" (Objective One, 2001, p. 4). It is estimated that in 2010 alone "Cornwall attracted over four million staying visitors" (Cornwall Council, 2011h, p.14).

Notably, speaking in commercial terms, the principal asset of the Cornish tourism industry is its natural environment and all the activities relating to it, therefore, protecting the (Cornish) environment means to protect the industry of (Cornish) tourism itself (Objective One, 2001, p.4).

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[8] GDP = Gross Domestic Product: the conventional way of measuring humanity's progress; something that is strongly questioned by leading voices on sustainability (see also Chapter 3: 'Morality, Values and Sustainable Behaviour').

Figure 2. Newspaper covering Cornwall and generally the South West region of UK.

1.4   Negative Impacts from Tourism

As we discussed in the previous section, Tourism can be a positive means of increasing the economic, social, cultural, and environmental life of a country. However, Tourism is "a resource-dependent industry" and creates considerable environmental, social and economic impact (Barr et al, 2011, p.716) not only "on the destination involved" (Goodwin et al, 2003, p.275) but on a global level also (McKercher, 1993, p.131). Authors such as Cabrini et al (2009. In: Ram et al, 2014, p.37) argue that "Tourism is both a victim and a vector of climate change", which means that "Tourism is in the unique position of both supporting and fearing the consequences of the differing concepts of sustainability." (p.136).

"Tourism's impact on the climate has recently come under the spotlight as the importance of travel has emerged as a contributor to climate change emissions" (Chapman, 2007; Stern Review, 2006. In: Barr et al, 2011, p.716). For example, "[o]ne consequence is that popular tourist destinations are becoming overcrowded, and suffer from water and air pollution, litter, dirty seawater and beaches, congestion, aesthetic pollution and litter, shortage of resources and waste overcapacity" (European Commission, 2004. In: Budeanu, 2007, p.500). This creates "environmental risks, for humans and the natural environment." (Budeanu, 2007, p.500).

In regards to Cornwall, it is recognised that, in its current form, the Tourism industry is a vibrant business sector that does not contribute to low-carbon development but remains unsustainable in a number of environmental, social and economic ways (Cornwall Sustainable Tourism Project, 2014a; 2014b). For example, according to Cornwall Council (2009), "Cornwall's ecological footprint suggests that the use of resources within the county is not sustainable." [9] This, at a time when there is an "expected growth of tourism worldwide" (European Environmental Agency, 2005. In: Budeanu, 2007, p.500) and Cornwall specifically is very well placed to realise more visitors in the coming decades; as global warming, peak oil and international transportation woes continue (Cohen et al, 2014).
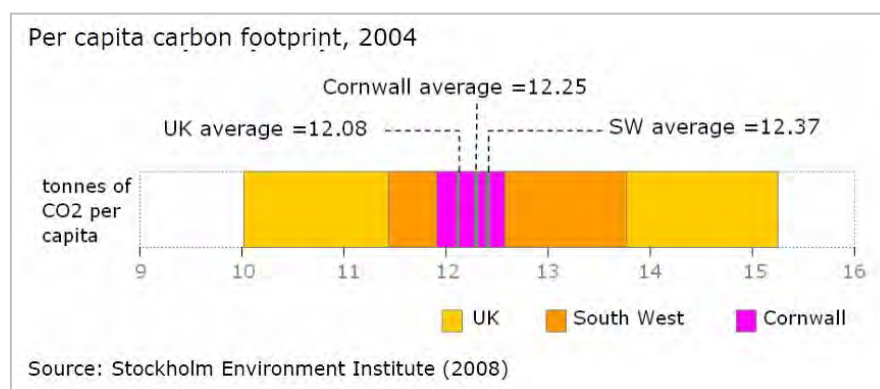
Figure 3. Cornwall's 2004 carbon footprint (image: Cornwall Council, 2010, p.21)

The main negative effects from Tourism are listed in Table 4, below. Notably, "tourism could find itself generating up to 40 per cent of global carbon emissions by 2050" (Dubois and Ceron, 2006; Gossling and Peeters, 2007. In: Cohen et al, 2014, p.1) and we need to highlight here that "the United Nations World Tourism Organisation (UNWTO) Tourism Barometer 2012 forecast of 1.8 billion international travellers by 2030 is incompatible with carbon mitigation" (Cohen et al, 2014, p.1). [10]

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[9] According to Cornwall Council (2009) the concept of 'Ecological Footprint' is "used to provide a measure of the direct and indirect environmental consequences of the way people live" and is expressed as an area of land. For example "the world average ecological footprint was 2.7 global hectares per person in 2005, compared to the global ecological capacity which was estimated to be 2.1 global hectares per person. This means that total global demand for resources was 30% greater than the available capacity in 2005, and therefore the consumption of resources was unsustainable."

[10] According to the Global Sustainable Tourism Council (2011a) "more than 900 million international tourists travelled last year, and UNWTO forecasts 1.6 billion tourists by the year 2020".

Negative Economic Effects

- The growth of tourism in a region creates growing demand on the scarce resources of that area.

Negative Political Effects

- International tourism imposes a form of 'neo-colonial' type development on emerging nations, which takes power from the local and regional level and concentrates it into the hands of multinational companies which will negotiate any problems at the national level.

- Contact between people of different backgrounds is not always beneficial and may in some cases generate additional cultural, social, and moral stresses.

Negative Sociocultural Effects

- Differences in cultural behaviour between visitors and residents can create antipathy.

- Overcrowding reduces the value of the holiday experience and creates additional strain for the resident population. The arrival of too many visitors can even cause local people to leave, disrupting completely the way of life of the local people.

- The form of contact between host and guest. Tourists' tastes and habits can prove offensive to particular sectors of the local population: from 'demonstration' to 'confrontation' effect.

- Local culture and customs may be exploited to satisfy the visitor.

- The traditional dances and the skilled craftwork give way to cheap imitations to satisfy the needs of the visitor and to obtain money with the least possible effort.

Negative Environmental & Ecological Effects

- The uncontrolled commercial exploitation of tourism: Excessive and badly planned tourism development affects the physical environment of destinations.

- The waste and sewage from these developments are often discharged in an unprocessed form and pollute the rivers and seas of the holiday areas.

- Poor and ill-conceived forms of tourism development also destroy irreplaceable natural environments, the true and long-term benefits of which may not have been properly evaluated.

- The more attractive a site, then the more popular it becomes and the more likely it is that it will be degraded by heavy visitation.

- Wildlife has been severely disturbed, coral reefs have been despoiled, and alien forms of plant life have been introduced into delicate ecosystems on the shoes and clothing of visitors.

Table 4. Negative effects from Tourism (adapted from Archer et al, 1994. In: Theobald, 2004).

1.4.1 Reducing the Cornish-hospitality-industry's CO_2 emissions

Accommodation provision is a "familiar trend" (Butler, 1999, p.19) and an integral part of the conventional holiday experience (Budeanu, 2007). As Figure 5 illustrates, following transport (72%), accommodation provision is the second largest sector of the Tourism industry (24%) that significantly contributes to CO_2 emissions (Cohen et al, 2014, p.3)[11], due to its business need for "resource consumption (water and energy) and waste generation (waste water and solid waste)" (Budeanu, 2007, p.500).[12]

Nevertheless, research demonstrates many possibilities for the hospitality industry to change its 'business as usual' practices that contribute to CO_2 emissions and climate change. For example, as explicitly discussed in Chapter 4: 'Commitment (The principle of Consistency)', the hospitality industry can reduce its negative environmental impact created by energy and water usage through initiatives such as 'towel and linen reuse', encouraging customers to reuse their towels and sheets and not having them replaced daily.
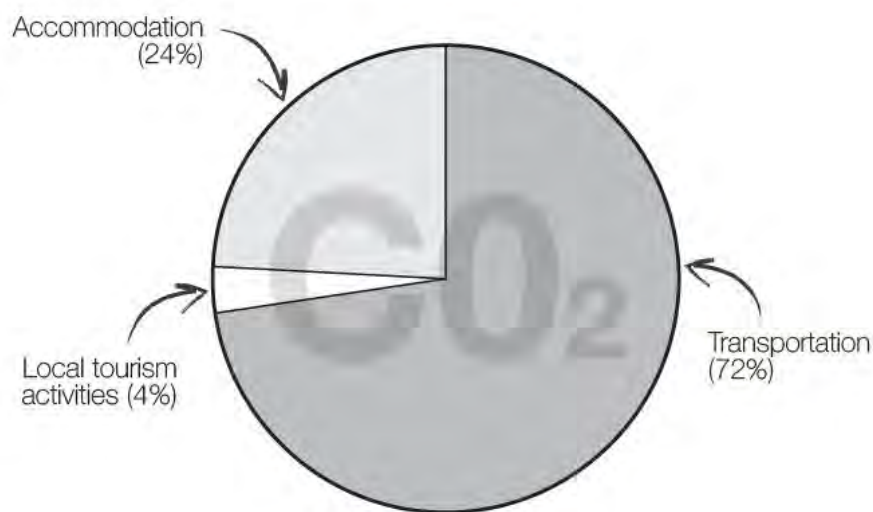
Figure 5. Tourism-related CO_2 emissions (adapted from Peeters et al, 2010. In: Cohen et al, 2014, p.3).

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[11] "Tourism's current global contribution to climate change ranges between approximately 5 per cent if measured as CO_2 emissions and up to 14 per cent of global GHG emissions if considering the impact of all GHG in a given year (Scott et al., 2010)." (Cohen et al, 2014, p.3).

[12] "Industry measurements indicate that energy consumption in hotels range from 15 to 90 kWh per room per day, while water consumption varies between 200 and 450 1 per room per day." (UNEP, 2006; AccorGroup, 2007. In: Budeanu, 2007, p.500).

And as Energy Star (2010), an Environmental Protection Agency in the US, demonstrates, if within a year the hospitality industry reduces its energy use by 10%, that would lead to savings of 750 million dollars and at the same time to a reduction of 6 million tons of CO_2 emissions. Likewise, if the Cornish hospitality industry also reduced its energy usage by 10%, that would not only significantly minimise the industry's operating costs but would also significantly reduce the industry's contribution to climate change, and promote major benefits for the county's beautiful and precious environment; and as mentioned in Section 1.3, protecting the environment means to protect the Tourism industry itself.

1.5   The need for Sustainable Tourism

Based on the above insights, it becomes clear that "Sustainable development, and the response to climate change in particular, has emerged as a central problem for tourism" (Hall, 2014, p.276) due to the global growth of tourism and its various damaging by-products in a number of environmental, social and economic ways. In other words, "the tourism system itself needs to change [...] because the current situation is not sustainable" (Ram et al, 2014, p.38). This argument is endorsed by many authors who state that "[t]he concept of sustainability is central to the reassessment of the role of tourism in society" (Archer et al, 1994, p.95) but, unfortunately, "tourism is empirically demonstrably less sustainable than ever, and continues to increase its absolute contribution to greenhouse gas emissions and, thus, climate change" (Gossling, 2009; Hall, 2011; Peeters and Landre, 2011; Scott et al, 2012. In: Hall, 2014, p.276).[13]

Thus, a widely recognised need exists for "sustainable tourism" (Butler, 1999), also referred to as "ethical and responsible tourism" (Goodwin et al, 2003). More specifically, Hall (2014, p.276) describes the distressful numbers:

"In 2012, international tourist arrivals are expected to reach one billion for the first time, up from 25 million in 1950, 277 million in 1980 and 528 million in 1995 (UNWTO, 2012). The UNWTO predicts that the number of international tourist arrivals will increase by an average 3.3 per cent per year between 2010 and 2030 (an average increase of 43 million arrivals a year), reaching an estimated 1.8 billion arrivals by 2030 (UNTWO, 2011, 2012). Even with hoped-for per trip efficiency gains, the absolute contribution of tourism to climate change will continue to increase in the foreseeable future" (Gossling et al, 201; Hall, 2010, 2011; Peeters and Landre, 2011; Scott et al, 2012. In: Hall, 2014, p.276).

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[13] "Scott et al (2008) suggest that CO2 emissions from tourism will grow by about 135 per cent to 2035 (compared with 2005), totalling approximately 3059 Mt." (Hall, 2014, p.276).

1.6 Defining Sustainable Tourism: no shared understanding

Hall (2014, p.278) characterises "emissions reduction in tourism [as] a classic 'wicked' or 'messy' problem". This means that there is not a single definition but, on the contrary, numerous attempts to define the meaning of Sustainable Tourism exist, (Stabler et al, 1996. In: Butler, 1999) and Goodwin (2011) speculates that "there will be many more" (see Table 6, below). One definition of Sustainable Tourism as provided by the World Tourism Organization (1993, p.7) is "tourism which meets the needs of present tourists and host regions while protecting and enhancing opportunity for the future." Here, one could argue that this definition is unfortunately as abstract and vague as the definition of 'Sustainable Development' from the famous Brutland report[14] and as Thackara (Doors of Perception, 2013) explains, having an ill-defined concept is part of the problem of furthering sustainability (in tourism).

Tourism which meets the needs of present tourists and host regions while protecting and enhancing opportunity for the future. (World Tourism Organization 1993: 7)

Sustainable tourism is tourism and associated infrastructures that: both now and in the future operate within natural capacities for the regeneration and future productivity of natural resources; recognize the contribution that people and communities, customs and lifestyles, make to the tourism experience; accept that these people must have an equitable share in the economic benefits of local people and communities in the host areas. (Eber 1992: 3)

Tourism which can sustain local economies without damaging the environment on which it depends. (Countryside Commission 1995: 2)

It must be capable of adding to the array of economic opportunities open to people without adversely affecting the structure of economic activity. Sustainable tourism ought not interfere with existing forms of social organization. Finally, sustainable tourism must respect the limits imposed by ecological communities. (Payne 1993: 154–5)

Sustainable tourism in parks (and other areas) must primarily be defined in terms of sustainable ecosystems. (Woodley 1993: 94)

Sustainable tourism is tourism which develops as quickly as possible, taking into account of [sic] current accommodation capacity, the local population and the environment, and:
Tourism that respects the environment and as a consequence does not aid its own disappearance. This is especially important in saturated areas, and:
Sustainable tourism is responsible tourism. (quoted in Bramwell *et al.* 1996a: 10–11)

Table 6. Definitions of Sustainable Tourism (Butler, 1999, p.10).

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[14] In 1987, the Brundtland Report (Our Common Future) provided the original definition of 'Sustainable Development' as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987, p.43).

While many argue that "[t]he inherent vagueness of 'sustainability' is its greatest weakness" (McKercher, 1993, p.131) and that the lack of a single, generally accepted and commonly understood definition has led to a "widespread misuse and abuse" of the concept of sustainable development (Butler, 1999, p.11), on the contrary, others agitate that sustainable tourism should be regarded "as an adaptive paradigm" and remain open to a variety of interpretations according to a given circumstance (Hunter, 1997, p.851). In any case, sustainability undoubtedly remains a "vital but still fuzzy project" (Marchand et al, 2010, p.1432). In Thackara's (Doors of Perception, 2013) words:

> "The trouble is that there's no shared understanding of what sustainable tourism actually means. On the contrary: a bewildering variety of words and labels is a guarantee of confusion.[15] Thousands of green-coloured websites talk about Sustainable Tourism, Responsible Tourism, Slow Travel, Nature Tourism, EcoTourism."
>
> [...] Many travel operators proclaim their support for the 2001 Cape Town Declaration on Responsible Tourism – but the barrier to adherence is low. Supporters need commit merely to 'minimise' negative economic, environmental, and social impacts. There are no binding targets, no governance of this vast and fragmented industry. As one critic put it, the result is an empty promise to leave the world 'As Unspoilt As Possible'. Many travel operators, aware that labels of their own have become meaningless, advertise the fact that their travel products are verified, accredited, or certified as being sustainable. But, as with the confusing language, so many competing standards have been introduced that the effect is to cancel each other out. The injustice is compounded by the fact that genuinely conscientious independent operators lose their hard-won advantage."

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[15] "In 2002 there were over 70 tourism eco-labels in Europe [...] which fail to reach their purpose and annoy, more than help, tourist choices." (Budeanu, 2007, p.504).

Figure 7. A confusion of Sustainable Tourism eco-labels (image: Doors of Perception, 2013).

The Global Sustainable Tourism Council (2011b) have published online a set of criteria as "an effort to come to a common understanding of sustainable tourism", focused around four basic themes:

- effective sustainability planning
- maximizing social and economic benefits for the local community
- enhancing cultural heritage
- reducing negative impacts to the environment

Respectively, Cornwall Council (2011f) has listed key themes for tackling sustainable development in Cornwall:

- Achieving a sustainable economy
- Tackling climate change
- Making sustainable use of materials, energy and water
- Promoting personal well being
- Environmental protection

1.6.1 Green-washing

As Lane (2008, p.2) describes, "Sustainable Development is an old concept. In the agricultural terminology of the past it was called good husbandry or stewardship." In our days, the term has become a fashionable linguistic device abused by politicians, governments and corporations in order to increase profit but without necessarily corresponding to honest environmentally-friendly practices. In regards to Tourism, the above argument is supported by 'The International Ecotourism Society' (2011) that argues: "much of what is marketed as 'eco' is simply conventional tourism with superficial changes". That is why the term "green-washing" has been coined to characterise any "irresponsible use of the terms green, eco and sustainable" (CNN, 2008).
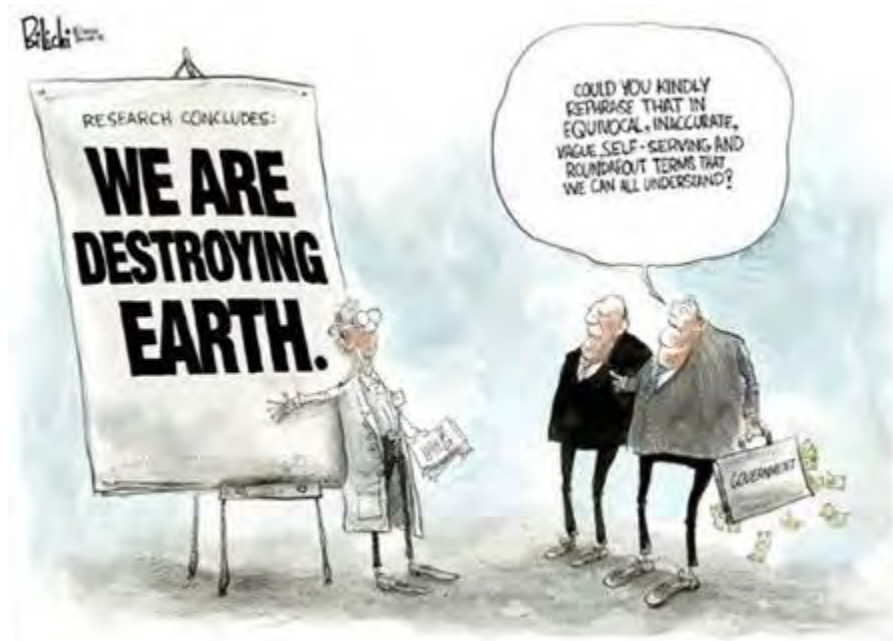
Figure 8. The truth about climate change can be 'castrated' through inaccurate and vague language that serves vested interests of the political elite. The image reads: "*Could you kindly rephrase that in equivocal, inaccurate, vague, self-serving and roundabout terms that we can all understand?*" (image: nd).

On that note, Thackara (Design Online, 2012a; 2012b) stresses that "we need to find better ways of telling the truth to each other", and Corner (2012, p.26) points out the need to respect the "limits on how far the meaning of a message about sustainable behaviour can be bent before it becomes broken and meaningless. Some things (regular flying or eating imported red meat every day) are simply unsustainable, and pretending otherwise is in no-one's best interest."[16]

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[16] See also Futerra's (2009) online article on green-washing and commercial aviation.

Figure 9. "Flying [...] remains categorically an environmentally damaging practice. To brand any such practice 'eco-smart' is a profoundly misleading message to convey to members of the public." (Anon, 2009; image source: Anon, 2009).

1.6.2 Sustainable Tourism vs. Sustainable Development in the Context of Tourism

Here, it would be wise to note that "sustainable tourism is not automatically the same as tourism developed in line with the principles of sustainable development" (Butler, 1999, p.12). As Butler explains, to 'sustain' means 'to maintain' or 'to prolong', therefore, when we are talking about Sustainable Tourism we need to be clear that we are *not* just focusing on tourism "which can maintain its viability in an area for an indefinite period of time [because] in many cases tourism is competing for resources and may not be the 'best' or wisest use of resources in these or other locations in the long term." (Butler, 1993. In: Butler, 1999, p.11). Moreover, with such a definition, Sustainable Tourism would be opposed to "the concept of sustainable development, which by its very nature is holistic and multisectoral."(Butler, 1999, p.12).

This design research project follows Thackara's (2005, p.237) definition, where Sustainable Tourism "attempts to make a low impact on the environment and local culture, while helping to generate income, employment, and the conservation of local ecosystems. It is responsible tourism that is both ecologically and culturally sensitive." For example, according to The International Ecotourism Society (2011), a responsible and sustainable touristic operator

would be a local business, which employs local staff, uses local materials/resources and engages in activities which benefit the local community.[17]

1.6.3 Carrying Capacity

As also discussed in Chapter 2, truly furthering sustainability includes not only *efficient* but also *sufficient* patterns of production and consumption. This means that whatever the definition of 'sustainable development', "the idea of limits" must lead the debate (Butler, 1999, p.15).[18] In the context of Tourism this concern is translated into the concept of 'Carrying Capacity' (Butler, 1999, p.15), which refers to the "maximum number of tourists who can be successfully accommodated (however 'successful' is defined)" and is a fundamental concept for furthering sustainability in Tourism. For example, Goodwin (In: Cornwall Sustainable Tourism Project, 2011b) argues: "we should not be measuring tourism in number of arrivals but rather in net benefit to our local economy and its contribution to the sustainability, the resilience of our communities." Likewise, Archer et al (1994) argue that a negative sociocultural effect of tourism is the issue of 'overcrowding'. The unregulated gathering of visitors in a holiday destination "reduces the value of the holiday experience and creates additional strain for the resident population" and "can even cause local people to leave" (p. 90). This argument is endorsed by a number of authors who explain that "[f]urther levels of visitation or development would lead to an unacceptable deterioration in the physical environment and of the visitor's experience (Getz, 1983; O'Reilly, 1986; McCool and Lime, 2001. In: Archer et al, 1994, p.80).[19] More specifically, in Lane's (2008, p.5) words:

> "Sustainable tourism was designed not to stop tourism but to manage it in the interests of all three parties involved – the host habitats and communities, the tourists and the industry itself. It seeks a balance between development and conservation. It seeks to find the best form of tourism for an area taking into account its ecology and its culture. It may mean limits to growth, or is some cases no growth at all. The precautionary principle is important here."

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[17] "Local conditions, local trading patterns, local networks, local skills, and local culture remain a critical success factor for many companies and for most people." (Thackara, 2005, p.129).

[18] Examples of practically applying the idea of limits in a design context: "smaller dustbins encouraging less waste production (since they create the effort of taking the rubbish out more often), or toilets that automatically cap the amount of water per flushing." (Deterding, 2012, p.4). Another example would be the small European houses that discourage consumerism compared to the huge American houses that promote it.

[19] Notably, the notion of applying the concept of Carrying Capacity was extensively raised by multiple voices during Bournemouth University's 2012 International Conference on "Tourism, Climate Change and Sustainability", where the author of this thesis participated and presented an extended abstract of his on-going research (see also Chapter 6).

In his article "Venice revolts against tourism", Valere Tjolle (Travel Mole, 2014) conveys the concerns of local residents of Venice (one of the most famous touristic destinations globally), who demand the application of 'Carrying Capacity' regulations or "some type of tourist access control in Venice" in order to put an end to an "obscene parody of tourism". All this because of a simple truth: "Each day, more than 60,000 people visit Venice – more than the entire population of the city". And as Peter Debrine, Head of the World Heritage and Sustainable Tourism Programme at UNESCO, comments, "[y]ou can't have those kind of numbers come into a site and not have a negative impact."

Figure 10. "The neighbourhood needs its rest": Excessive levels of visitation distressing the resident population of Barcelona (photo by author).

"The story is the same everywhere" (Travel Mole, 2014). For example, in peak summer, Cornwall's population increases by 50% and "visitor numbers in areas such as Newquay equate to over 10 times the resident population", let alone St. Ives where the population increases by more than 600% (Cornwall Council, 2011d).

Figure 11. A crowd of tourists visiting Falmouth during August 2014 (photo by author).

One could rightfully argue that it is essential for Cornwall to build upon its key selling features of a beautiful and engaging environment, its local produce and distinctive and internationally acclaimed cultural heritage, but at the same time, "there is an urgent need for tourism to [...] develop a code of business ethics" (Archer et al, 1994, p.97) and denominate the visitor-resident-resource relationship (Bramwell et al., 1996, p.61. In: Butler, 1999, p.16).

1.7 Sustainable Behaviour in Mass-Tourism: a Paradox?

In the beginning of the project, confusion and uncertainty prevailed on how to approach the issue of promoting sustainability in mass tourism. Evidence from an extensive literature review, as well as the author's personal experience, rendered the conventional relationship between the tourism industry and tourists, as the same relationship of a tame butler obediently pampering their master's desires but hesitating to express disapproval or objection to any concerns. In other words, the typical tourism industry (the butler) offers tourists (the master) an experience rooted in consumerism, carefreeness and hedonism without questioning its negative environmental and social impact.[20] Thus, the thought of encouraging sustainable, responsible behaviour within an experience/industry where 'carefreeness' is a foundational element, seemed a very challenging undertaking (see Figure 13).

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[20] Lane (2008) conveys the neo-liberal perception promoted by the mass-tourism industry: "holidays [are] the 2 weeks of the year when selfishness and thoughtless consumption [is] possible for everyone, when caution could be relaxed."

Moreover, acknowledging that tourism is a "wicked problem" (Hall, 2014, p.278), and that current attempts to change tourist behaviour are "slow and discouraging" (Budeanu, 2007, p.505), and also by considering Wheeller's (2012, p.39) question: "All tourism involves travel: all travel involves transport: no form of transport is sustainable: so how on earth could we have sustainable tourism?", one could soon realise the paradox[21] of this research: *How can we remind people that they need to care in a time and place where they mostly want to be care-free?*

Additionally, based on the fact that "the business and policy strategies of almost all national and regional tourism organisations are predicated on increased visitor numbers" (Hall, 2014, p.277), a challenging question also arose here: "can [tourism] continue to have both increased economic growth at the same time as becoming more sustainable"? (Hall, 2014, p.277). On the one hand, the industry suggests that tourism can indeed follow a "green growth" model (Cabrini, 2012; UNWTO and UNEP, 2011. In: Hall, 2014, p.277), "in terms of resource consumption, waste management and transport optimisation (Upham, 2001; Gotz et al., 2002; WTTC, 202; VISIT, 2005. In: Budeanu, 2007, p.499). On the other hand, science questions tourism's "green economy discourse" and argues that "the optimism of such a growth paradigm based on material/resource/energy efficiency, major changes in the energy mix towards renewable and continued increases in visitor numbers is extremely problematic, given the arithmetic constraints of growth and efficiency limits, governance and market limits, and system limits" (Hall, 2009; Hoffmann, 2011. In: Hall, 2014, p.277).

Based on Barr et al (2010, p.474. In: Ram et al, 2014, p.39), one could argue that it is our dominant western perception of "a holiday is a holiday" that typically dictates excessive consumption patterns during a touristic experience; in other words: "[p]eople want holidays, and on holidays they act hedonistically." (Ram et al, 2014, p.53). The tourism-industry enhances this perception of holidays as consumerist, carefree and hedonistic through their advertising material. Indeed, as Budeanu (2007, p.500) explains, "[a] factor that retrospectively influences tourist decisions is the hedonic value derived from the holiday experience, which reshapes personal preferences (European Commission, 2004) and may influence subsequent tourist choices (Duman and Mattila, 2005)." According to Miller et al (2010), when humans take the role of the Tourist, they usually enter a different state of mind and tend to lose layers of personal responsibility compared to their daily routine behaviour. That may explain why our behaviour as tourists tends to become more excessive in terms of resource consumption (Miller et al, 2010).

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[21] Additionally, one can reasonably ask: how can we promote sustainability in mass-tourism where paradoxically, to paraphrase Monbiot (2010), "progress is measured by the speed at which we destroy the conditions which sustain the industry of Tourism."

For example, someone that could be fairly cautious with their water usage when taking a shower back home, might use the hotel's shower multiple times a day when on holiday.[22] Having said that, the excessive consuming behaviour of hotel guests during their stay is a commonly expressed concern from Cornish Tourism businesses (see also Chapter 6: 'Online Surveys' and 'Personal Interviews'). For example, as one Cornish Farm-Cottage owner characteristically describes (see also Appendix 5: 'Personal Interview B'):

> "The one thing and element of behaviour I am finding really difficult to change is the use of electricity and gas and water. People think when they're on holiday they paid for the house, the money is all spent, so really 'I can just use as much as I like'. And that is a really hard nut to crack."

Arguments such as the above, put the spotlight on sustainable human behaviour and reveal the extra layer of complexity related to influencing the behaviour of tourists towards environmentally-friendly patterns (Pearce, 2005). Research undertaken by Barr et al (2011) demonstrated that individuals in certain lifestyle groups associate environmental behaviour with notions of inconvenience and that climate change is challenging their 'comfort zone' as consumers. As Budeanu (2007, p.504) explains, "[a]sked to behave responsibly, individuals find often in a conflict situation between their short-term personal gains and the long-term societal needs, such as concerns for sustainable development." Additionally, as Hall (2014, p.279) argues, "[e]ven the most environmentally aware tourists might not be more willing to alter travel behaviour and may even be among the most active travellers (Barr et al., 2010; Gossling et al., 2009; McKercher et al., 2010)."

On a positive note, according to Thackara (Doors of Perception, 2013), "awareness of the problems with mainstream travel is not an issue […] most of the world's travel agents have heard about sustainable tourism, and 70 percent of travellers would consider a green option when planning a trip." Notably, research reports that consumer demand for ethical and responsible tourism is currently increasing (Goodwin et al, 2003) and people/tourists are "questioning some of the excesses of tourism development." (Archer et al, 1994, p.94).

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[22] Thackara (Doors of Perception, 2013) refers to the "absurdity " of the conventional mass tourism model "in which a tourist from a rich country can use as much water in 24 hours as someone who lives there uses in 100 days."

Tourists in general	Sustainable tourists
• to obey local laws • not to participate in widely condemned, albeit legal, activities • not to offend religious beliefs • not to damage the physical environment • not to overuse resources	And additionally • not to visit a place with a poor human rights record • be responsible to learn about the visited place including some language • meet and form friendships with local people • boycott local businesses which pay staff poor wages • not to spread disease • contribute to the local economy

Figure 12. Tourists versus Sustainable Tourists (image source: Pearce, 2005, p.23).

Figure 13. A conventional language, rooted in consumerism, carefreeness and hedonism, typically used to promote the experience of tourism (bottom-right image source: A Diamond in Sunlight, 2007).

1.8 Taking an active role in furthering Sustainable Tourism: CoaST and its One Planet Tourism Network

This research project is supported by Cornwall Sustainable Tourism Project (CoaST); a non-governmental social enterprise, directed by Manda Brookman and her team, aiming at promoting sustainability in tourism and contributing to the reach and impact of its One Planet Tourism Network[23]; an active network that consists of more than 3100 tourism-related members (also known as CoaSTies), demonstrated by successes such as the 168 Cornish businesses who have signed up to the Green Tourism Business Scheme (the highest membership of any county in the UK; 12% of the national membership).

Figure 14. This project is supported by business-partner CoaST Ltd

It was when the author started interacting closely with CoaST that light at the end of the tunnel in the form of 'furthering sustainability in Tourism' could be seen. A valuable step in initiating the research process was the access to the One Planet Tourism Network. The Network helped the author familiarise himself with local business-members through personal interviews and visits to their hotels, guest houses, farm cottages, etc. (see also Chapter 6: 'Research Methodology'). Consequently, the author's uneasiness as a design researcher started to disappear as he was gradually discovering that there is a network of people that *already* try to do things differently, taking an active role in challenging the way Tourism conventionally delivers the overall touristic experience, running their business with sustainability in mind while still delivering a satisfying Cornish experience to their visitors. For example, one Cornish holiday-cottage owner characteristically describes their technological infrastructure (see also Appendix 5: 'Personal Interview D'):

> *"Our whole site is geared up to be self-sustainable in energy and water [...] so guests have no other choice but to be environmentally-friendly"; "we have been shortlisted for the Cornwall Sustainability Awards".*

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[23] From CoaST's website: "The WWF invented the phrase 'one planet' in relation to our lifestyles. Essentially we have one planet. If everyone lived and consumed resources as we do in the west, we'd need three planets. We have one. So it's about living fairly and not taking three times our share. Same for tourism. Living within our environmental and social means. Simple, innit? :) ".

Another Cornish Guest-House owner explains (see also Appendix 5: 'Personal Interview C'):

> *"we have jute bags hanging in the wardrobes [...] We tell people about jute, it's biodegradable, it's environmentally friendly, we encourage people to use that rather than use carrier bags".*

And another owner describes (see also Appendix 5: 'Personal Interview B'):

> *"I am quite happy to talk about it, the ways we do it, and try to encourage the guest to join in, but I don't want to have 'don't do that', 'don't do that', 'don't do that'. Negative messages are really, really bad. [...] So here we're leading by our example [...] [Visitors] belong, they're part of our team; what we do, they want to do too. So, influencing by emulating behaviour is great; big hotels can't do that. [...] I try to [encourage sustainability] more by conversation, by behaviour, by talking to our visitors about things [...] I send my guests a survey when they go home – probably get about 15% filled in. I ask them questions, 'Did our sustainable behaviour influence you' and I get answers to these questions. And a lot of them say 'No, we were already doing x, y, z', or some say 'Yes, the composting was so easy, I am definitely going to start doing more composting when I get home', and so on."*

In short, CoaSTies endeavour to do things differently in terms of:
- Eco-technology: employing new eco-technologies in their business context
- Eco-behaviour: willing to take a proactive role (asking for change) in communicating and encouraging pro-environmental behaviour from their visitors,

which, as explicitly discussed in Chapter 2, those two strategies combined is a method for truly furthering sustainability (in the hospitality sector).

Figure 15. Little White Alice, a Cornish farm-cottage, uses eco-technologies for furthering Sustainable Tourism practices.

Figure 16. Five ways to be the best sort of visitor: CoaST raising awareness of tourists visiting Cornwall.

Manda Brookman, the director of CoaST, calls her members "Positive Deviants" for their passion that drives them onward to look for "alternative solutions" to deliver a different, sustainable Cornish tourism experience (see Figure 16, below). "Among environmental and climate change activists, for example, a consensus is emerging that the time has come to move beyond the "do less harm" language of resilience, mitigation, and adaptation. There's a widespread sense that, in all our projects and innovations, we need to commit to leave things better." (Doors of Perception, 2013).
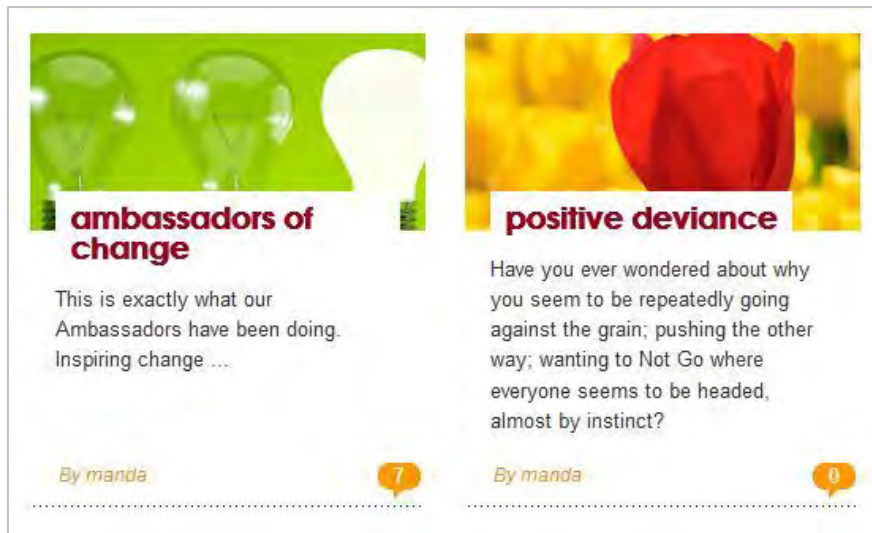
Figure 17. Sustainable Behaviour as Positive Deviance (screenshot from CoaST's official website).

Notably, Tourism is but a single context, and as Cohen et al (2014, p.1) explain, "[t]he critical challenge that must be taken up without delay is to achieve 'radical emission reductions' in all sectors of the economy, and across all aspects of society." In other words, the challenge of promoting sustainable behaviour is not an issue related only to Tourism but it is "the challenge of our time" (Guardian, 2013a) consisting of a wide spectrum of environmentally and socially related practices.[24]

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[24] Trying to change people's behaviour demands a multi-disciplinary effort (Guardian, 2011) and "it's a challenge across lots of fields, from health and wellbeing to reducing fraud as well as sustainability." (Guardian, 2013b).

1.9 Conclusions from Chapter 1

In-depth analysis of literature on Tourism helps us acknowledge that Tourism in its current form is a major contributor to CO_2 emissions and, thus, climate change. Therefore as a sustainable designer, the author needs to find an appropriate way to address the identified need to challenge conventional patterns of producing and consuming the touristic experience, in order to promote a shift towards more environmentally and socially friendly practices to develop Sustainable Tourism in Cornwall.

This Chapter discussed the benefits as well as negative effects of the Tourism industry on a global level and, by doing so, it identified the need for Sustainable Tourism. Then the Chapter focused on the context of Tourism in Cornwall and limited its scope to the area of Cornish accommodation-provision. Notably, this research cannot address every sector of the Tourism industry, as that would be not only beyond the scope of this thesis but also enormously challenging to deep-dive into human behaviour in a single thesis. Thus, this project operates within the boundaries of the accommodation-provision (the second largest sector of Tourism that contributes to greenhouse emissions), with an overall aim to reduce/eliminate the CO_2 emissions that contribute to climate change from the hospitality industry.

Moreover, this Chapter discussed the concepts of 'Green-washing' and 'Carrying-Capacity' and the importance of appropriately addressing them in order to further Sustainable Development. Lastly, this Chapter illustrated the paradox of promoting Sustainable Behaviour in mass-tourism. Notably, throughout the whole process this design project is supported by Cornwall Sustainable Tourism Project (CoaST) and its One Planet Tourism Network.

Since, the overall aim of this practice-based research project is the promotion of Sustainable Tourism, consequently the research question that arises here is: How can we promote Sustainable Tourism in Cornwall?

Chapter 2: Influencing Tourist Behaviour towards Sustainable Consumption

"Consumer behaviour change is the challenge of our time."

– Steven Johnson (Guardian, 2013a).

2.1   Summary of Chapter 2

Keywords: *sustainable consumption, technology, user/tourist, behaviour change, influence, Design for Sustainable Behaviour (DfSB), nudging, critical reflection.*

This chapter provides a comprehensive contextual review of the area of "Sustainable Consumption" and the emerging field of "Design for Sustainable Behaviour". Taking a critically reflective approach, Chapter 2 provides evidence of the author's understanding of the areas and how particular texts and theoretical models are appropriate for this research project, and, by doing so, this Chapter answers the question posed in the previous Chapter. This means that influencing the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns, means to promote Sustainable Tourism in Cornwall.

More specifically, in-depth analysis of the literature identifies the need to change conventional western neo-liberal patterns of production and consumption, due to their major contribution to CO_2 emissions and, thus, climate change. According to Moscardo (1996) and Pearce (2005), one of the major ways to achieve sustainability in tourism is by influencing the behaviour and attitudes of visitors and tourism operators. Therefore, regarding Tourism as a form of consumption and building upon Cohen et al's (2014, p.2) argument that "sustainable tourism requires fundamental shifts in consumer behaviour", this research project studies tourists as 'consumers', and aims at encouraging sustainable consumption in order to promote Sustainable Tourism in Cornwall. Additionally, since human behaviour, not technology, lies at the heart of sustainable consumption, this project addresses the challenge of promoting sustainable tourism from a behavioural point of view, not a technical one, and employs a contemporary approach endorsed by design-led research into behaviour change, known as "Nudging".

Furthermore, insights from primary-data help to distinguish the kind of environmentally "unfriendly" touristic behaviours this project tries to tackle, and because sustainable consumption requires a responsible consumer behaviour not just at the Point-of-Sale, but most importantly during the Use-phase of a product/service/system's lifecycle (Pettersen and Boks, 2008, p.119), this project mostly focuses on influencing environmentally-friendly CO_2-related Human-Artefact interactions within the context of Cornish accommodation-provision.

Lastly, this Chapter reflects critically on methods that conceal values of sustainability within other, more favoured human attributes, and questions the separation of cause and effect in the name of 'appropriate' behaviour.

2.2   The need for sustainable consumption: tourists as consumers/users

Numerous authorities have identified the need for more sustainable forms of consumption and it has been proposed that a direct link exists between consumer behaviour and environmental impact (Tang and Bhamra, 2008, p.7). Furthermore, Marchand and Walker (2008, p.1164) argue that "people's choices, behaviours and lifestyles play a vital role in moving towards sustainable development". This emphasis on behavioural change is reinforced by Cornwall Council who states that modifying people's behaviour will be critical in order to achieve environmental benefits (Cornwall Council, 2011c). As Cohen et al (2014, p.1) explain, the need for sustainable consumption practices, "demands the transformation of our lives and societies (Monbiot, 2007), [and] raises difficult questions for consumer-based neoliberal western societies (Harvey, 2011; Stern, 2007)." These concerns and the overarching necessity to minimise the environmental and social impact of satisfying human needs are commonly referred to by leading government and intergovernmental organisations (DEFRA, 2005; UNEP, 2002).

Nevertheless, despite the growing recognition that conventional patterns of consumption create a considerable negative impact on the natural environment and the human condition (Walker, 2011; Marchand et al, 2010; UNEP, 2002; Brundtland, 1987), and the increasing number of people pursuing alternative, more environmentally and socially friendly lifestyles (Marchand et al, 2008, p.1164), there is still a widespread "lack of consumer awareness of the connection between personal behaviour and the direct impact of such on the environment and energy use" (Tang and Bhamra, 2008, p.7).
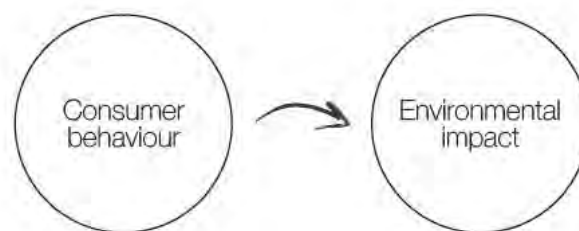
Figure 18. Our consumption practices (as tourists) create an impact on the environment, locally and globally.

Humans have a hierarchy of individual needs and wants (Maslow, 1954), and seek to satisfy them through consumption (Jackson, 2004). According to Walker (2011, p.210), humans are "meaning-seeking beings" and consumption is a western man's prevailing way to "fill the 'meaning' gap" (see Figure 20). In regards to consuming behaviour, it is interesting to note that neuro-marketing research illustrates that "[s]ome 70% of buying decisions are based not on rational thinking but are driven by factors such as the need to belong and the need for

recognition, status and sexual success" (Guardian, 2014a). Notably, Hall (2014, p.285) highlights that "[t]he symbolic value of consumption [...] has long been recognised as important for tourism and leisure consumption (Chen and Hu, 2010; Miles, 1998), including specifically with respect to sustainable consumption (Barr et al., 2010; Hall, 2011)." Moreover, Hall (2014, p.285) continues to explain that "consumption is a multi-layered phenomena that is full of meaning"; it can range from shopping for a smartphone from a local store, to the consumption of various types of tourism, such as "cultural tourism, where hundreds of thousands of people annually descend on the cities of culture, tombs of the pharaohs or last remaining natural places." (Walker, 2011, p.210). On that note, Manzini (2005) characterises cultural events as the social resources of a community and argues against their exploitation and their reduction to a 'supermarket type' of localism, where ritual performances are turned into mass-consumption shows, commodified for commercial profit. Taking into consideration that, as mentioned in Chapter 1, the tourist industry affects, and is affected by, all consuming aspects of our lives: food, transport, accommodation, procurement, energy, waste, water, wildlife, natural environment, retail, people and lifestyles, Manzini explains that a community/destination should be capable of using their different types of resources (infrastructural, production, social, physical, historical) within the limits[25] of their regeneration possibilities in order not to deteriorate the territorial value on which the resources are based.

Figure 19. I consume therefore I am: "consumption [...] as a signifier of identity" (Hall, 2014, p.285)

(photo by author).

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[25] An argument that is also in line with the concept of 'Carrying Capacity', as discussed in Chapter 1.

The insights from this section reveal the urgent and widely recognised need to challenge conventional consumption (and production) practices. Since 'Consumption' is interwoven with 'Tourism' (Hall, 2014), this research project studies tourists as 'consumers' and, in regards to tackling climate change, it approaches the need to evolve as more responsible tourists in the same way as the need to evolve as more responsible consumers. Therefore, in this project, promoting Sustainable Tourism means to influence sustainable consumer behaviour. Notably, design-led research has significant potential in furthering sustainable consumption (Papanek, 1984) and can be used as a medium to help humans shift our standards from being individual consumers to "citizens of the world" (Marchand et al, 2008, p.1164), and realise the fact that through our daily behaviours we create environmental, social and economic impact, positive or negative, not only to our immediate surroundings but to other areas of the planet as well. [26]

Figure 20. "... yearning to fill the 'meaning' gap" (Walker, 2011, p.210; image credit: Lora Mathis. In: Adbusters, 2014).

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[26] Spiritual teachings also make a distinction "between the human being and the individual. The individual is a local entity [that] merely acts in a particular corner of the vast field of life [...] unrelated to the whole [whereas] the human being is not a local entity [but] concerned with the total welfare, the total misery and total confusion of the world." (Krishnamurti, 1969, p.5).

2.3   Sustainable consumption = Eco-technology + Eco-behaviour

"Are you polluting the world or cleaning up the mess? You are
responsible for your inner space; nobody else is, just as you are
responsible for the planet. As within, so without: If humans clear
inner pollution, then they will also cease to create outer pollution."
– Eckhart Tolle, The Power of Now, 2005, p.65.

Sustainable consumption is part of the concept of sustainable development that requires a fundamental change in conventional approaches of production and consumption. This means that there is a need to find alternative ways to satisfy our human needs, away from our current environmentally damaging practices (Ceschin, 2011; Walker, 2011; Marchand et al, 2010).[27]

Although there is a lack of a concrete and mutually agreed upon definition of sustainable consumption (Jackson, 2004), Marchand et al (2010; 2008) argue that foundational notions involved in the concept of sustainable consumption are:

- efficiency
- sufficiency
- social conscience

This means that fruitful conditions for truly furthering a sustainable society can only be created if *efficient* consumption (consuming more ecologically sound products/services/ systems), is equally followed by *sufficient* consumption (consuming smaller quantities of products/systems) and social conscience (the ethical dimension of products/services/systems, taking into account "the social integrity of the processes" by which they were produced) (Marchand et al, 2010, p.1432). In other words, as Walker (2011, p.60) explains, "we cannot hope to reduce environmental degradation if we are not prepared to reduce our levels of consumption. This is only likely to occur if we can develop other ways of finding fulfilment that also provide for economic confidence and security."

Once again, this points to 'consumer behaviour change' as a core factor of sustainable development. On that note, Fabricant (2009) describes that "the core of all sustainability efforts centres on behaviour change and not exclusively on materials and processes", which means that efficiency and innovation on a product level alone is important but not enough to create conditions for sustainability, where established conventions of production and consumption need to be radically redefined (Ceschin, 2011, p.14). Additionally, Corner (2012) explains that approaches that have the potential to truly tackle the sustainability challenge should basically

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[27] "The store was closed down so I went home and hugged what I own." (Brooks Palmer).

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come from a behavioural point of view and not just a technical one. This argument is reinforced by numerous authors, such as Walker (2014, p.75) who argues:

> "Sulston et al assert that techno-efficiencies will be of 'the greatest importance' in reducing waste, pollution and exploitation of nature (2012). However, while such technologies may be a beneficial development compared to current modes, seeing them as a major contribution to change simply reinforces an eco-modernist approach to sustainability (Davison, 2001) and is regarded by some as naive (Senge et al, 2008). A transformation to greener, more efficient technologies might reduce certain of the negative effects, but it does not confront the heart of the consumption issue."

Thus, one essential argument of this thesis is that the development of innovative eco-technologies and increased product/service/system efficiency is important for furthering sustainability but, nonetheless, should be equally followed by a change in our consuming behaviour (Marchand et al, 2010, p.1432). In other words, "External change has to be accompanied and steered by inner change." (Walker, 2011, p.60); making our products, services and systems more efficient but also making our behaviours more responsible (see Table 21). Here, it would be useful to unfold Laskey's (2013) viewpoint on the behavioural aspect of furthering sustainability:

> "Twenty percent of the electricity in homes is wasted, and when I say wasted, I don't mean that people have inefficient light-bulbs. They may. I mean we leave the lights on in empty rooms, and we leave the air conditioning on when nobody's home. That's 40 billion dollars a year wasted on electricity that does not contribute to our well-being but does contribute to climate change. That's 40 billion -- with a B -- every year in the U.S. alone. That's half our coal usage right there."

> "[...] Now thankfully, some of the world's best material scientists are looking to replace coal with sustainable resources like these, and this is both fantastic and essential. But the most overlooked resource to get us to a sustainable energy future, it isn't on this slide. It's in this room. It's you, and it's me. And we can harness this resource with no new material science simply by applying behavioural science. We can do it today, we know it works, and it will save us money right away."

External change	Internal change
- New efficient technologies	- A shift in human behaviour
- Improved products/systems	- Improved consumption practices
- Innovation	- Human purpose

Table 21. The uphill road to sustainability requires both, external and inner change

(adapted from Walker, 2011, p.60).

Furthermore, according to Pettersen and Boks (2008, p.119), there are three main phases that can overall characterise sustainable consumption practices:

- Choosing a product/service/system (Point-of-Sale)
- Using/interacting with a product/service/system (Use-phase)
- Disposing a product/service/system (end of Lifecycle)

This means that environmentally-friendly consumption practices are not only determined by a responsible product choice at their Point-of-Sale (Gowri, 2004. In: Lilley, 2007, p.9) but are also determined by a responsible interaction with the product during its use-phase (Pettersen and Boks, 2008, p.119), as well as a responsible disposal at the end of its life cycle (DEFRA, 2005). Likewise, Hall (2014) argues that "colossal de-carbonisation of the economy and society will only be achieved if current consumption patterns, methods and lifestyles are also subject to profound change. But how to achieve this in tourism has proven to be an extremely vexed question (Bramwell and Lane, 2012, 2013; Gossling et al., 2012; Hall, 2011; Higgins-Desbiolles, 2010; Scott and Becken, 2010; Scott et al, 2012; Zeppel, 2012)." Notably, Budeanu (2007, p.500) explains that "[t]he overview of individual tourist choices throughout the holiday process and potential impacts, gives a general idea of the complex challenges encountered when trying to reduce damaging effects of tourism."[28]

In regards to furthering Sustainable Tourism, Budeanu (2007, p.501) argues for a combination of "high efficient facilities" and "least resource-consuming patterns". As Cohen et al (2014, p.2) explain, "It is clearly evident that 'technology and management will not be sufficient to achieve even modest absolute emission reductions (Gossling et al., 2010, p.119). This, according to Gossling et al. (2010), confirms that social and behavioural change is

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[28] "Individual tourist consumption is well documented for British tourists, who make sure that they left no litter (84%), visit natural areas (63%), save water by showering instead of bathing (30%), and switched off the air conditioning to save energy or had their towels washed less frequently (10%)" (Martin, 2001. In: Budeanu, 2007, p.501).

necessary to achieve climatically sustainable tourism. Indeed the UNWTO concedes that climatically sustainable tourism requires fundamental shifts in consumer behaviour (UNWTO-UNEP-WMO, 2008)."

2.4 The focus of this research: influencing pro-environmental touristic behaviour

Kollmuss et al (2002, p.240) define 'sustainable behaviour' or environmentally-friendly behaviour' as "behaviour that consciously seeks to minimize the negative impact of one's actions on the natural and built world (e.g. minimize resource and energy consumption, use of non-toxic substances, reduce waste production)." Miller et al (2010) argue about the urgent need to evolve as more responsible tourists as well as "begin describing what actions a responsible tourist must take" because modifying people's behaviour will be critical in order to achieve environmental benefits (Cornwall Council, 2011c), and advancing the nature of tourism means to revise the behaviour of the tourist (Moscardo, 1996).

Through an extensive literature review and by rationalising the complexity and vastness of Sustainable Tourism, pro-environmental behaviour change becomes the focus of this research project. This means that this project addresses the challenge of promoting sustainable tourism (in Cornwall) from a behavioural point of view, not a technical one, by focusing on touristic behaviour change: shifting the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns.

Based on the above insights from the literature review, it follows that furthering Sustainable Tourism can be achieved by promoting sustainable consumption, and sustainable consumption, in turn, can be promoted by influencing consumer/tourist behaviour during the Use-phase of a CO_2-related product/service/system within the context of the Cornish hospitality industry.
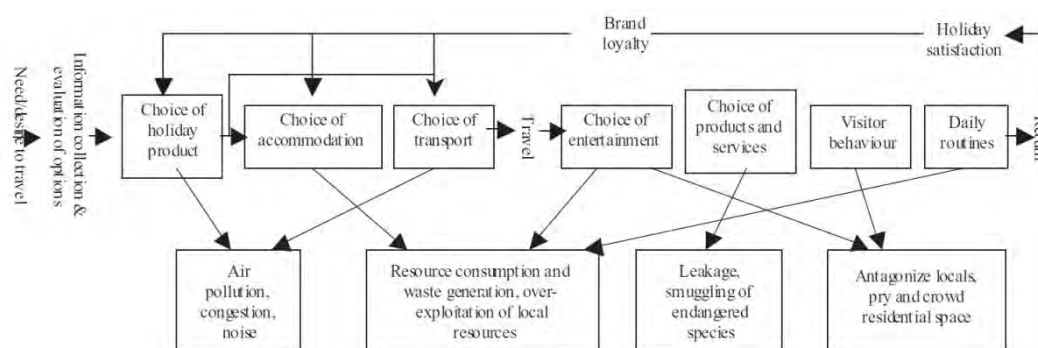
Figure 22. "Tourist holiday choices and associated environmental impacts" (Budeanu, 2007, p.500).

Here, it would be beneficial to note that there is already a great deal of design projects focusing on furthering sustainable consumption through intelligent products, for example, "movement sensors switching lights on and off when people enter or leave" their room (Pettersen and Boks, 2008)[29]; this design project is not one of them. In other words, this practice-based research does not follow a technologically-oriented approach to sustainability, but a behavioural one, and is not aiming at designing a new, more efficient technological infrastructure (for example, see Figure 22) but aims at influencing what 'Design for Sustainable Behaviour' calls the 'user-behaviour' side of a Human-Artefact interaction, and, thus, encourage tourists visiting Cornwall to use the existing infrastructure of products/services/systems in more environmentally and socially just ways. In summary, this design research aims at designing human behaviour.

Notably, Elias et al's 2008 matrix (see Figure 23) suggests that when designing for 'new user behaviour' while maintaining 'existing products', a potential scenario to address the overall sustainable performance of a User-Product interaction is by "Educating users". Indeed, as will be discussed in Chapter 4, educating users to sustainable behaviour through factual information provision is the default approach in changing human behaviour. Nevertheless, this project questions conventional approaches to behaviour change, and does not approach Sustainable Tourism by educating tourists but by engaging (nudging) them to sustainable behaviour.
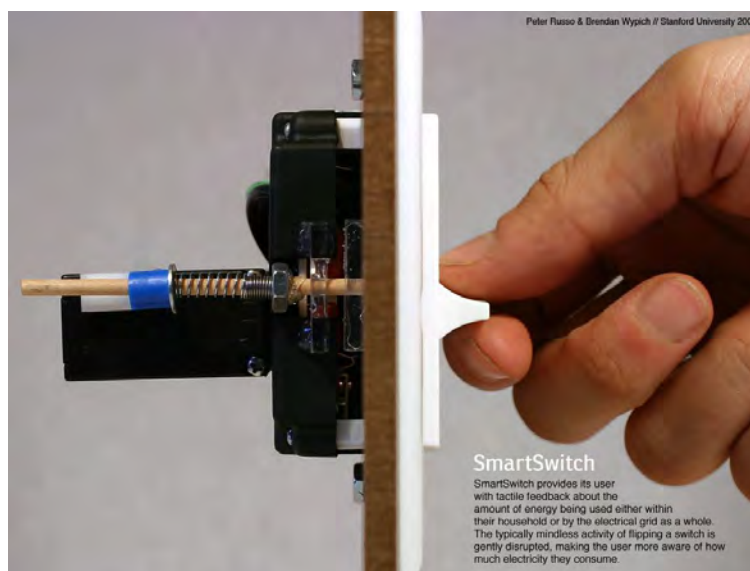
Figure 23. Designing intelligent eco-products, such as "SmartSwitch", are not a focus for this research

(image: Russo et al, 2009).

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[29] Other "[e]xamples of behavioural steering include public benches split into separate seats by armrests to avoid people lying down to sleep, the use of stay-on tabs on soda cans preventing tabs from being littered and speed-bumps in residential neighbourhouds." (Pettersen and Boks, 2008).
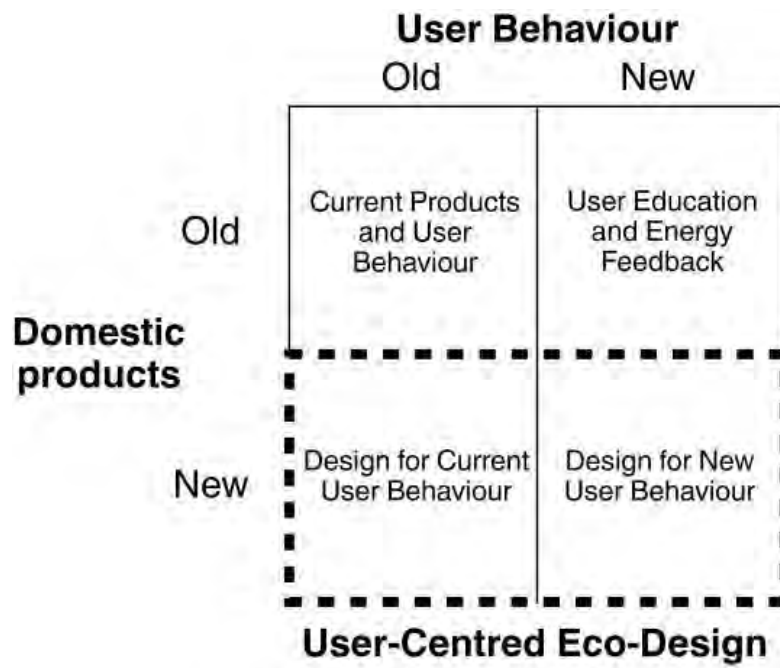
Figure 24. Elias's 2008 matrix: four potential scenarios for furthering sustainable human-artefact interaction.

2.4.1   Defining (un)sustainable touristic behaviour

From the outset, this research project raises here two key questions related to 'behaviour change':

- What exactly is (un)sustainable touristic behaviour in the context of this project?
- Which behaviours of tourists is this project trying to influence in order to promote sustainable tourism in Cornwall?

Tourism is a multi-layered experience that consists of a complex mixture of "tangible and intangible elements [...] and tourist demand for each of them has a different significance for the sustainability of tourism destinations." (Budeanu, 2007, p.499). Respectively, the experience of 'Tourism in Cornwall' consists of a mixture of tangible and intangible points of interaction, what the field of 'Service Design' (Clatworthy, S., 2011; Choy, D., 2008; LiveWork, 2008a; 2008b) terms as "Touchpoints".[30] For example, a pasty, an ATM machine, a reef in the sea, a hotel, a hotel's receptionist, are all points of interaction that shape the Cornish touristic experience. Taking this into consideration, this research narrows its scope on Touchpoints that have "high potential to generate environmental problems" and create "a negative impact on destinations" (Budeanu, 2007, pp.500-501). But, as discussed in Section 2.1, since this project operates within

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[30] A Touchpoint is defined by Service Design as "any point of interaction between a service provider and a customer." (LiveWork, 2008b).

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the context of the Cornish hospitality industry, it does not focus on unsustainable touristic behaviours such as consuming "excessively harming entertainment and souvenirs from endangered species [...] disturbing biodiversity habitats (Christ et al, 2003), or overusing the natural space such as intense skiing activities in the Alpine ecosystem (Snepenger et al, 2007)", even though they are widely recognised as environmentally-damaging practices (Budeanu, 2007, pp.500-501). Thus, as Figure 25 illustrates, this project targets the behavioural side of furthering sustainable consumption and focuses on the way visitors interact with CO_2 intensive Touchpoints within the context of Cornish accommodation-provision, in order to minimize the negative environmental and social impact created through that interaction.
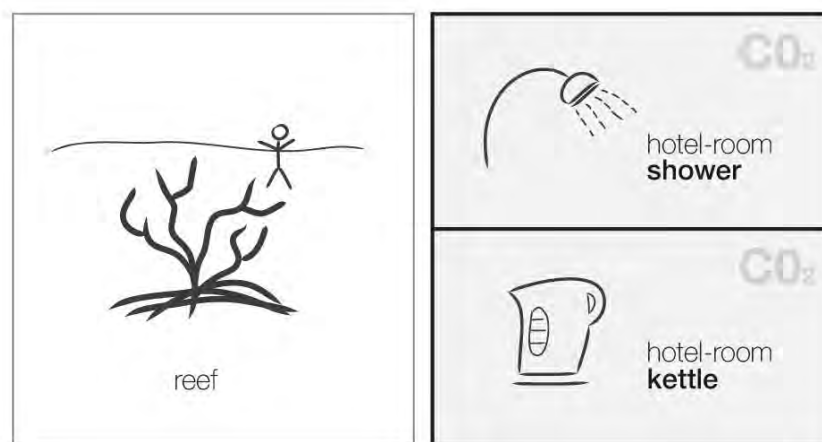
Figure 25. Influencing the behaviour of tourists during their interaction with CO_2-intensive Touchpoints.

In-depth analysis of the literature and primary data (see also Chapter 6: 'Research Methodology'), provides a better understanding of unsustainable behaviours tourists may engage in during their stay in Cornwall. The input from 44 businesses of the Cornish accommodation-provision industry, members of CoaST's One Planet Tourism Network (see also Chapter 6: 'Online survey A (CoaST One Planet Tourism Network)' and 'Appendix 14') informs the aims and objectives of this practice-based design research by prioritising the most unsustainable visitor behaviours this project needs to tackle, in order to promote Sustainable Tourism in Cornwall. More specifically, there are 6 specific unsustainable touristic behaviours:
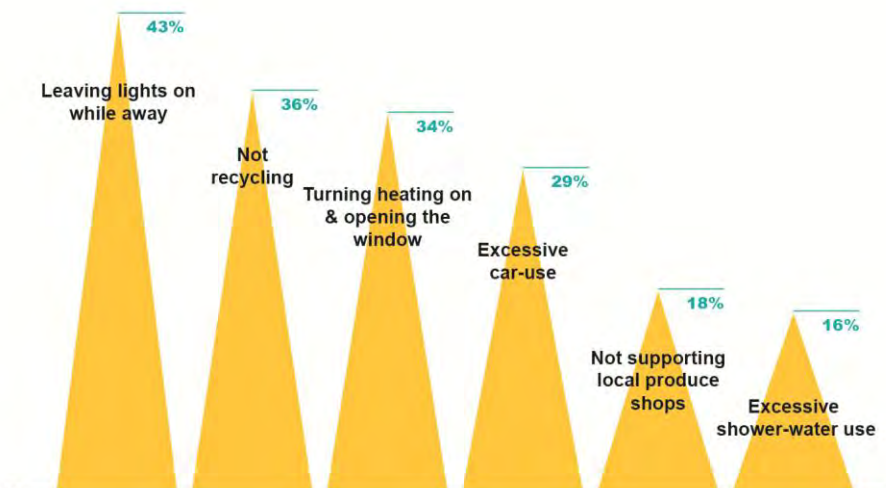
Figure 26. Top 6 environmentally-unfriendly visitor behaviours, according to 44 tourism-related businesses, members of CoaST's One Planet Tourism Network.

2.5 Influencing behavioural decisions during the Use-phase of a product/service/system

According to Wood and Newborough (2003, p.3), domestic-energy usage, both in the developed and the developing world, is a significant contributor to carbon dioxide emissions, with 26-36% of that energy consumption occurring from residents' behavioural decisions. Moreover, according to Tang and Bhamra (2008, p.7), "consumers assume that a product is efficient enough by itself and there is no need for a conscious behaviour to improve the overall energy performance". Thus, as Lockton (2009, p.21) explains: "[a]s technological advances make everyday consumer products more efficient, it's often human behaviour that's the 'weak link'. We buy 'energy-saving' lights and then leave them on all night. We boil a kettle-full of water even though we only need a mug-full. We stick with the default setting on the washing machine, afraid of investigating the others."

Once again, this points to the 'Use-phase' of an electrical and electronic product's lifecycle as the most significant determinant of the product's impact on the environment, with human behaviour playing the most important role during that phase (Elias et al, 2008; Tang and Bhamra, 2008, p.1; Pettersen and Boks, 2008, p.107; Rodriguez and Boks, 2005). For example, as Lockton (2013, p.181) describes, "DEFRA estimates that the amount of electricity wasted every year by overfilling kettles in the UK is enough to power all our street lighting (Product Creation, n.d.). So it's a big problem, even though kettles themselves are quite efficient at boiling water."

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Additionally, Consumer Studies demonstrate that touristic behaviour within the hospitality industry can also be subject to the so-called 'Rebound Effect': "It is a general opinion that if tourists choose to stay in environmentally adapted accommodation facilities, the impact associated with their stay is automatically lower. This assumption is not true, and research has shown that, once people know they are using an environmentally friendly device, they tend to use it longer, and end up by consuming more resources, phenomenon known as the rebound effect" (Hertwich, 2005. In: Budeanu, 2007, p.503). This means that the way a product/service/system is being used, the way the consumer actually interacts with that product/service/system, can be the factor that will eventually determine "how sustainable a product or a system really is" (Jelsma and Knot, 2002; Lilley et al, 2005; Rodriguez and Boks, 2005. In: Pettersen and Boks, 2008, p.108).
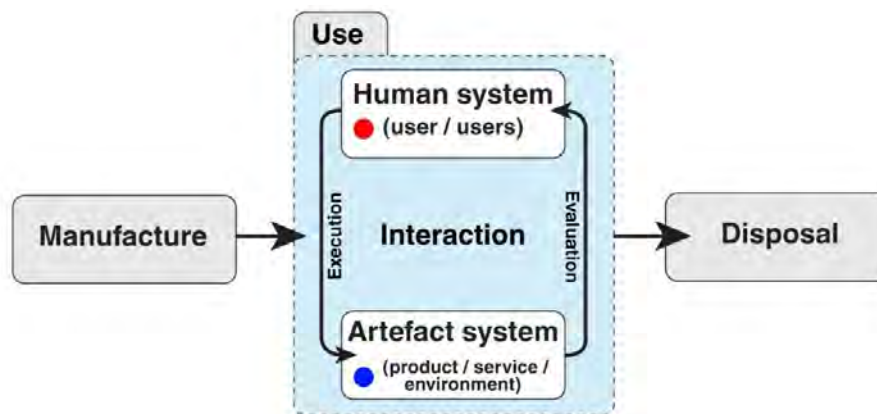
Figure 27. Human - Artefact interaction during the Use-phase of an artefact/system's life-cycle

(image source: Lockton et al, 2010b, p.8)

A relevant comment from Cornish accommodation-provider 5 (see also Chapter 6: 'Online survey A (CoaST One Planet Tourism Network)' and 'Appendix 14'):

> *"We have all the bells and whistles you can think of regarding energy efficiency as my husband has a company in the arena - including zone timers / thermostats; individual rad thermostats; solar water; air source heat pumps etc. - but the guests can override these."*

This interview feedback reaffirms the argument that human behaviour, not technology, lies at the heart of sustainable consumption (and, thus, Sustainable Tourism), and our behaviour as users can negatively offset all the environmental gain achieved with product efficiency (Ceschin, 2011, p.14).

Strategies for energy efficient domestic goods

Consumer Education | Feedback | User-Centred Eco-Design
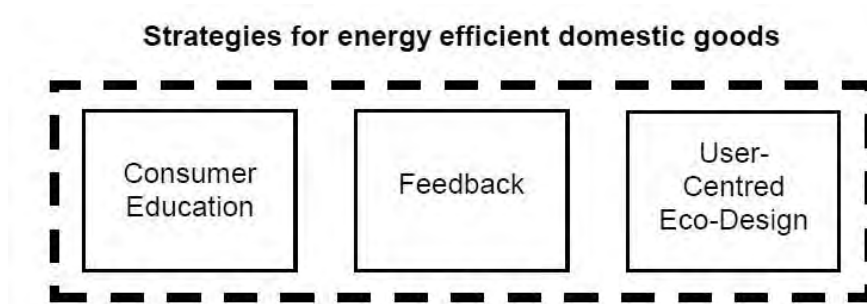
Figure 28. "The Three Strategies for More Energy Efficient Domestic Goods Usage" (Elias, 2008).

In regards to an electronic product's Use-phase, Elias (2008, p.1) refers to three strategies for increasing energy-efficient usage. He refers to "a greater consumer education" and "feedback" as a medium to increase user awareness of the environmental impact related to energy usage, but also Human Centred Design as a medium to help users learn how to use domestic products more efficiently in terms of energy demand (see Figure 27). The latter is of particular interest for this research project because it also follows a Human-Centred Design methodology.

Furthermore, according to designers such as Tang and Bhamra (2008) and Lockton (2013), in order to be able to intentionally influence more sustainable behavioural decisions in the context of human-product/system interaction, first, a designer researcher has to identify and understand what the underlying factors are behind behavioural decisions in the operational relationship between a human and a product/system; how and why humans interact with products, services and environments around them. Thus, the next section discusses opportunities for changing touristic behaviour through the lens of the emerging field of Design for Sustainable Behaviour.

2.6   The emerging field of Design for Sustainable Behaviour (DfSB)

"The tight bonds we form with our tools go both ways. Even as

our technologies become extensions of ourselves, we become

extensions of our technologies."[31]

– Nicholas Carr, The Shallows: What the Internet is doing to our Brains, 2010, p.209.

According to Pettersen and Boks (2008) and Elias et al (2008), the acknowledged complexity of consumer behaviour and the identified importance of the Use-phase of a product/system in regards to environmental and social impact, result in a need for academic research in sustainable design to increase awareness of issues of sustainability related to behavioural decisions during the use phase of a product/service/system: "encouraging more sustainable behaviour decisions can be seen as a design problem, concerned with how and why people interact with the products and systems around them, and how that interaction might be influenced." (Lockton et al, 2010b, p.2).

Various disciplines have traditionally been involved with influencing human behaviour, such as Environmental Psychology, Social Psychology, Behavioural Economics and Consumer Behaviour Theory; "Design-led research into behavioural change is a relatively new field of enquiry" (Lilley, 2007). "Although the influence of design on human behaviour has been recognised for some time, design for behaviour change has only been recognised formally in the last decade and is still immature, without a coherent set of approaches or framework to guide access for interested stakeholders." (Niedderer et al, 2014, p.13).

Design for Sustainable Behaviour (DfSB) (Lilley, 2007; Bhamra et al, 2008; Zachrisson et al, 2010; Lockton, 2014) is an emerging field of academic inquiry within the area of Sustainable Design, that explores design as a medium to intentionally influence user/consumer behaviour in certain directions, in order to promote environmental and social benefits (Lilley, 2007; Bhamra et al, 2008; Zachrisson and Boks, 2010). "Herbert Simon's early understanding of design, acknowledged its capacity to create change in *'devising courses of action to change existing situations into preferred ones'* (1969, p.129). Today, it is widely recognised that design in its various guises of objects, services, interiors, architecture and environments [...] is a significant driver of behavioural change, enabling, encouraging or discouraging particular practices from taking place." (Niedderer et al, 2014, pp.3-9). DfSB continues to investigate innovation on a product level, but also places user-behaviour at the centre of its research,

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[31] Carr (2010, p.209) continues: "Nietzsche's experience with his typewriter provides a particularly good illustration of the way technologies exert their influence on us. [...] he also sensed that he was becoming a thing like it, that his typewriter was shaping his thoughts."

"exploring how design could influence user behaviour to reduce the negative social and environmental impacts of products during use" (Lilley, 2007, p.3).

This notion of "bidirectionality" (Stanton et al, 1998a;1998b) can be identified in the field of DfSB: a 'green' product and/or system can modify user behaviour towards more sustainable practices and, at the same time, the way a consumer actually uses that 'green' product and/or system is a major determinant of "how sustainable a product or a system really is" (Jelsma and Knot, 2002; Lilley et al, 2005; Rodriguez and Boks, 2005. In: Pettersen and Boks, 2008, p.108).[32]
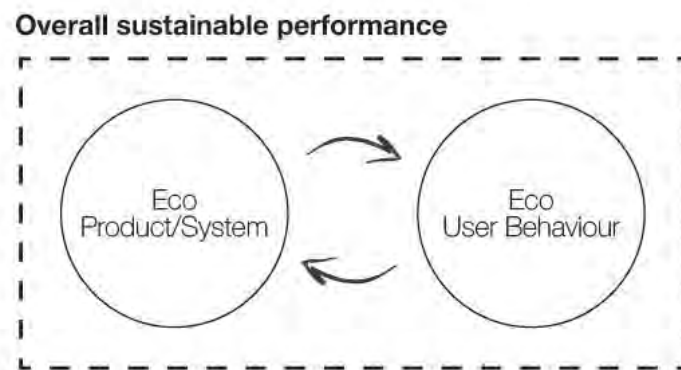
Figure 29. The overall sustainable performance is subject to the bidirectionality of User-Artefact interaction (adapted from Carroll et al,1992; Stanton et al, 1998a;1998b; Pettersen et al, 2008).

The underlying philosophy of the field is that sustainable consumption is a matter of synergy between eco-products and eco-behaviour, and that is exactly why this research builds upon the area of DfSB: because DfSB goes beyond the conventional overreliance on technological innovations, and acknowledges the importance of influencing human behaviour for furthering environmental and social sustainability (Wood and Newborough, 2003). After all, as Clay Shirky (2008, preface), writer, teacher and consultant on digital technology points out, "technology is [never] an end to itself; rather it is our use of technology that matters."

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[32] Notably, the co-evolution of artefacts and behaviour is also suggested in the field of HCI through Carroll et al's (1992, p. 184) "task-artefact cycle".

2.6.1   DfSB models of Lilley, Tang & Bhamra, Zachrisson & Boks, Lindman & Renström

There are two leading DfSB models: one comes from Loughborough University (Debra Lilley, Tracy Bhamra, and Tang Tang), and the other from the Norwegian University of Science & Technology (Johannes Zachrisson and Casper Boks).

All the identified DfSB strategies from the literature review undertaken (Lilley, 2007; Lilley, 2009; Zachrisson et al, 2011; Zachrisson and Boks, 2010; Tang and Bhamra, 2008; Bhamra et al, 2008; Lindman and Renström, 2011) build upon an "axis of influence": a spectrum of "the distribution of control" in decision-making between the user and the product; originally proposed in Lilley's PhD thesis (2007, p.35).
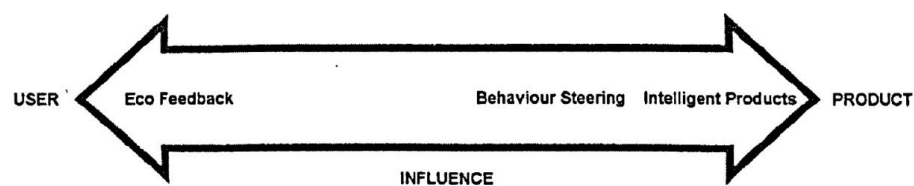
Figure 30. Lilley's (2007) original "axis of influence" (image source: Lilley, 2007, p.35).

Lilley's (2007) "axis of influence" consists of three main strategies for using design as a medium to influence sustainable user behaviour (see also Lilley's 2009 informed axis):

- Eco-feedback (McCalley, 2006. In: Lilley et al, 2009)
- Behaviour Steering (Akrich, 1992; Jelsma and Knot, 2002. In: Lilley et al, 2009)
- Persuasive Technology/Intelligence (Fogg, 2003. In: Lilley et al, 2009)

More specifically, as Zachrisson and Boks (2010) describe, on the left end of the axis, theories place the USER in complete control; PRODUCT in complete control is placed on the right end of the axis. "Between the two extremities are strategies with a varying degree of division of control."

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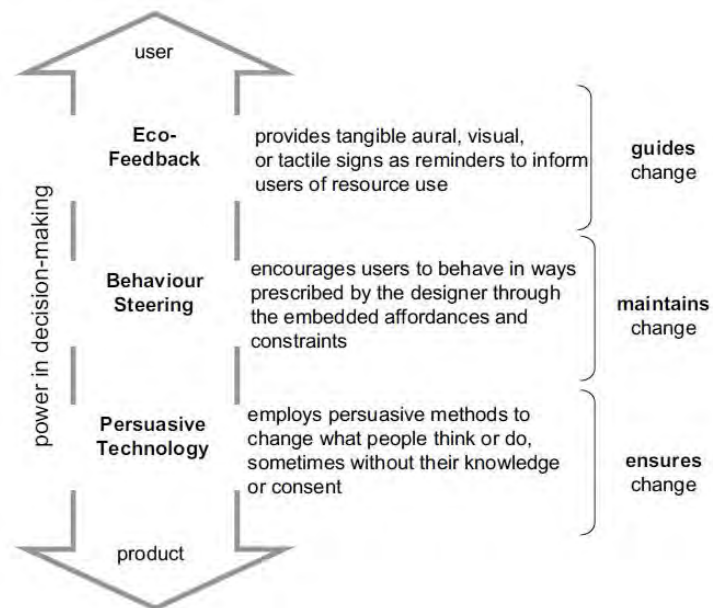
Figure 31. Strategies for sustainable behaviour (Lilley, 2009, p.705)

Lilley's original work formed the basis for Tang and Bhamra's (2008) expanded model that consists of seven DfSB strategies:

- Eco-Information
- Eco-Choice
- Eco-Feedback
- Eco-Spur
- Eco-Steer
- Eco-Technology
- Clever Design
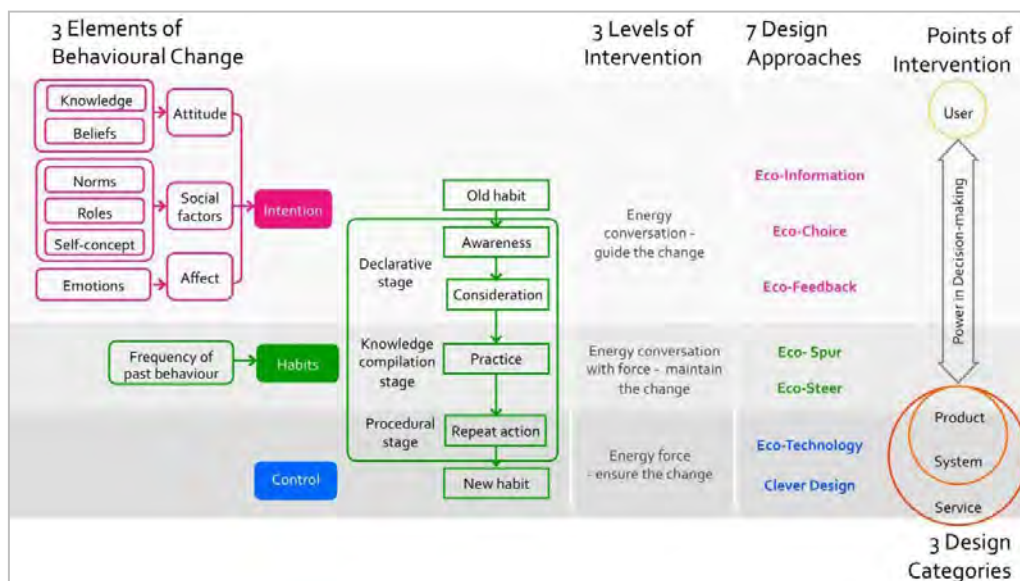
Figure 32. Tang and Bhamra's (2008) model: "Linking antecedents of behavioural and habitual change with varying levels of design intervention" (image source: Tang and Bhamra, 2008, p.5).

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Similarly, Zachrisson and Boks (2010), and Zachrisson et al (2011) suggest their model also consists of various strategies in relation to varying degrees of control in decision-making, distributed between the user and/or the product:

- Information
- Feedback
- Enabling
- Encouraging
- Guiding
- Steering
- Forcing
- Automatic

Figure 33. Distribution of control (Zachrisson et al, 2011).

Lindman and Renström's (2011) categorisation of DfSB strategies also range from enlightening (user in control), through persuading, to forcing (product in control). Jelsma (2006. In: Pettersen and Boks, 2008, p.121) informs us that "[w]hen artefacts fully control functions it is called automation or delegation of tasks".[33]
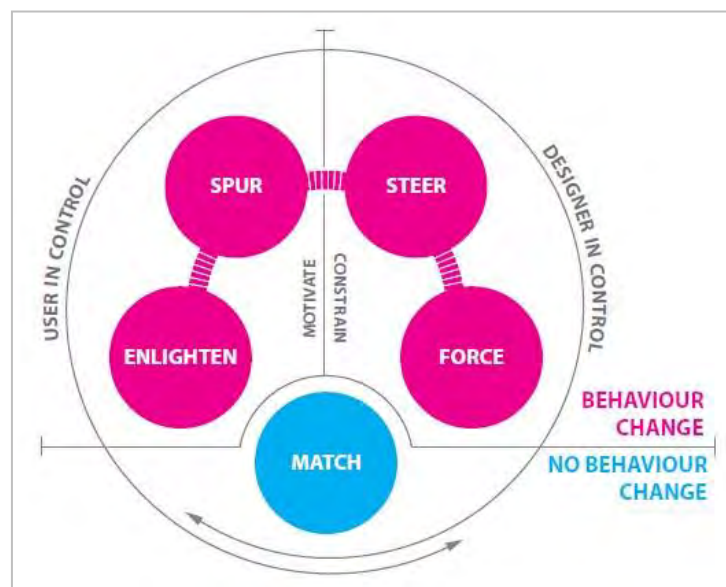
Figure 34. Lindman and Renström's (2011) DfSB model.

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[33] See also Norman's "Forcing functions" ("The Design of Everyday Things", pp.131-140; 203-206).

The following table provides a comprehensive overview of the main DfSB authors and their strategies:

Main DfSB authors & strategies			
	USER in control	USER+PRODUCT in control	PRODUCT in control
Lilley (2007)	Eco-feedback	Behaviour steering	Intelligent products Automization
Lilley (2009); Tang et al (2008)	Guiding change	Maintaining change	Ensuring change
Zachrisson et al (2011; 2010)	Informing	Persuading/Scripting	Determining
Lindman et al (2011)	Enlighten	Spur/Steer	Force

Table 35. Main DfSB authors and their strategies for 'designing sustainable behaviour'.

As Lockton (2013, p.35) argues, DfSB models can "help a designer match the *degree of control* employed in an intervention to the behavioural factors considered important in the situation concerned, such as whether the behaviour is habitual, whether the user has a desire to behave in the way intended by the designer, and how much attention the user should be expected to devote to the interaction." For example, interventions based on information and feedback provision depend on 'user's willingness' to modify their behaviour and engage in sustainable performances (Zachrisson et al, 2010); on the contrary, interventions based on forcing behaviour change do not necessarily require the user's attention for a successful behaviour change to occur (Zachrisson et al, 2010, p.5) because the product is in full control and able to override the human part of the system (Lilley, 2007; 2009). Additionally, the more the user is in control of the decision-making process the more the cognitive load is required from the user, thus, "the understanding of how much attention the interaction with the product can demand, can be a strong indicator of how much control the user should have." (Zachrisson et al, 2010, p.9).

As mentioned in the beginning of this Section, DfSB is a fairly new field of academic research, therefore "these approaches have not been widely applied and there is a lack of real data on their effectiveness" (Bhamra et al, 2008. In: Lilley and Lofthouse, 2009, p.32). This issue is also discussed by Casper Boks (Technoport, 2012) who argues that the categories of the models "are not strictly separated [and] they have some overlapping points"; for example, there is not a clear line between the strategies of "enabling" and "encouraging".

On that note, the author of this thesis constructed and conducted a workshop that practically applied DfSB strategies, in order to test them in action and get a better understanding of them. Falmouth University's Sustainable Product Design students (Level 2) were used as participants because, as Lilley (2007, p.46) explains: "Design students are, for a PhD researcher, a useful and accessible resource for testing ideas and can be used as initial subjects in pilot studies." (see also Chapter 6: 'Workshop A: Falmouth University's Sustainable Design students (Level 2)'). Notably, the results of the workshop confirmed what literature already suggests; for example:

- due to the lack of "sufficient detail of the designer's research and design processes […] students were unable to understand how the end result was reached." (Lilley and Lofthouse, 2009, p.32).

- the blurred line between DfSB strategies: approaches "are not as distinct from each other […] and there is quite a lot of crossover" (Lilley, 2007, p.39), therefore, as Zachrisson and Boks (2010, p.4) argue, further research is needed for design researchers to confidently decide "when and in which context the different strategies are most likely to be effective."

Despite the developing nature of the field, the main aim of any DfSB strategy is to reduce any negative environmental and social impact created from human interaction with products, services and systems, and even though different authors use different terminology, based on a comparative analysis of the literature review, one could argue that eventually their models share three main behaviour-change levels (see also Figure 36):

- **Informing** people into behaviour change: User in control of decision-making
- **Engaging/Nudging** people into behaviour change: User+Product in control of decision-making
- **Forcing** people into behaviour change: Product in control of decision-making

USER
in control

PRODUCT
in control

Informing   Engaging/Nudging   Forcing

Figure 36. Three main levels for designing sustainable behaviour (adapted from: Lilley, 2007, 2009; Zachrisson and Boks, 2010;2011; Tang and Bhamra, 2008; Bhamra et al, 2008; Lindman and Renström, 2011; Thaler and Sunstein, 2008).

2.6.2   DfSB examples

Design has a role in "making sustainable behaviour so easy, it is performed almost without thinking by the user" (Wever et al, p.15. In: Lockton, 2013, p.32); in other words, one simple but important factor of using 'Design' as a medium for influencing Sustainable Tourism is that it has the potential to create the infrastructure of a touristic experience in such a way that facilitates and enables pro-environmental behaviour by making sustainable behaviour easy to do, or impossible not to do (see Figure 37).

Enabling behaviour — Enabling 'desirable' behaviour by making it easier for the user than the alternatives

Motivating behaviour — Motivating users to change behaviour by educating, incentivising or changing attitudes

Constraining behaviour — Constraining users to 'desirable' behaviour by making alternatives difficult or impossible
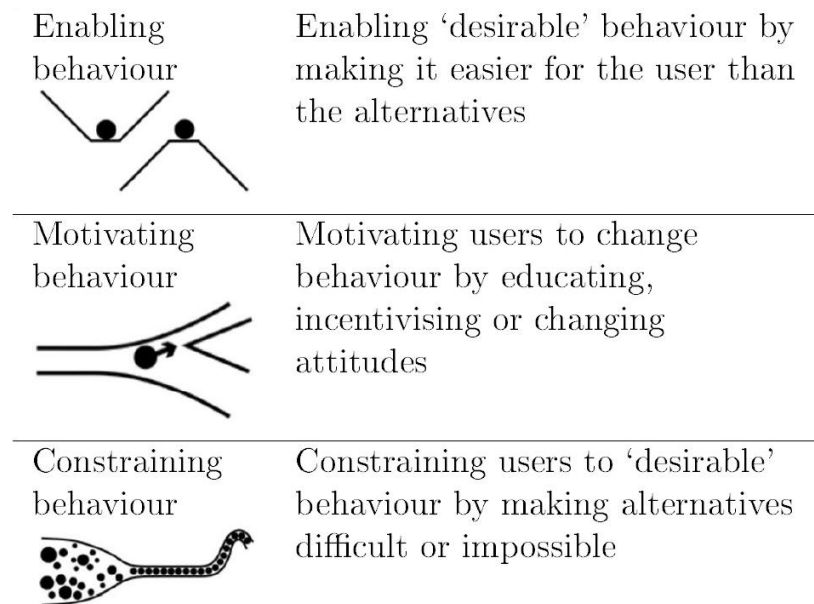
Figure 37. Making sustainable behaviour easy to carry out (Lockton, 2013, p.127).

Likewise, making sustainable behaviours easy to do is also a practice and concern raised by Cornish tourism businesses for promoting Sustainable Tourism (identified through in-depth analysis of personal interviews). As the Sustainability manager of a Cornish hotel argues:

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"Initially, one of the big things we do as a business, we try to set out to make sustainability easy, and to make sustainable choices easy. So, there is a lot of things we do as a business that enable our guests and our visitors to be more sustainable but they may not always realise it. […] so our rooms for example, our toiletries, are Cornish made and sourced, and guests can have the option to have more traditional bath products but that's what we give them. [...] we try to make things as easy as we can. So, with the recycling for example, we sit through the bins ourselves, we have recycling bins in the corridors, and we try to make it easy." (Personal Interview E)

Additionally, another Cornish farm-cottage owner argues:

"... you have to make everything easy. For instance, the hotel room that has the card, right? Click it in the door, the electric comes on; out of the door, the electric comes off. It's just so easy. You don't have to go around switching all those individual lights off. So, you make it easy for me, I'm happy. And that's when things start to happen. When you make it easy. For instance, our recycling. We didn't get anywhere near of the recycling take-up until we gave people bags to hang in their cottages. The difference that made was amazing – the year we did it. Just saying "Please recycle" didn't happen. [...] If people have to struggle down staircases with bags of cans, and bottles and things, no... But if you provide it in their rooms, and you've got a multi-bin in their hotel room then they don't have much to do, do they?" (Personal Interview B)

The following section consists of images that can be considered representative examples of 'Design for Sustainable Behaviour' interventions (see also 'Appendix 11' for more examples, and 'Appendix 16' for image credits) based on Tang and Bhamra (2008, p.4), Lilley and Lofthouse (2009, p.33), and Casper Boks (Technoport, 2012). The section starts by displaying Tang and Bhamra's (2008) link of 'DfSB' interventions with practical examples, and Lilley and Lofthouse's (2009) expansion of Tang and Bhamra's table (see Tables 37 and 38, below).

Eco-Information – design oriented education	
to make consumables visible, understandable and accessible to inspire consumers to reflect upon their use of resources	
1 - Visualizing energy-Expressing the presence and consumption of energy	Examples-Power Aware Cord - Seeing Personal Energy Consumption [Interactive Institute, 2004]
2 - Experiencing energy - Encouraging the user to interact with resource use.	Examples-Tyranny of the Plug Kitchen Machines - Being involved for powering the product [Van Hoff 2003].
Eco-Choice – design oriented empowerment	
to encourage consumers to think about their use behaviour and to take responsibility of their actions through providing consumers with options	
Users have a choice and the product enables sustainable use to take place	Examples- Domestic Energy Display - household system level concept [Design Council 2006].
Eco-feedback – design oriented links to environmentally responsible action	
to inform users clearly what they are doing and to facilitate consumers to make and socially responsible decisions through offering real-time feedback	
Providing tangible aural, visual, or tactile signs as reminders to inform users of resource use.	Examples- Eco-Kitchen [Sherwin et. al. 2000]
Eco- spur – design oriented rewarding incentive and penalty	
to inspire users to explore more sustainable usage through providing rewordings to "prompt" good behaviour or penalties to "punish" unsustainable usage	
Design for showing the consequences of their actions to consumers through "rewarding incentives" and "penalties"	Examples- Flower Lamp - Rewarding Energy Behaviours [Interactive Institute, 2004]
Eco-steer – design oriented affordances and constraints	
to facilitate users to adopt more environmentally desirable use habits through the prescriptions and/or constraints of use embedded in the product design.	
Designing "ease doing" affordances and constraints encouraging users to adopt instinctive sustainable energy use habits or reforming existing unsustainable habits	Examples- Unilever Powder Tablet - Counteracting excessive amounts of consumables consumption
Eco-technical intervention – design oriented technical intervention	
to restrain existing use habits and to persuade or control user behaviour automatically by design combined with advanced technology	
Product design utilises advanced technology persuade or control user behaviour automatically including using new materials; renewable	Examples- Energy Curtain - Interacting with Daily Light
energy resource; and new technology such as advanced computing and science technology.	Cycles [Interactive Institute, 2004].
Clever design	
to automatically act environmentally without raising awareness or changing user behaviour through purely through innovative product design	
Purely design solution for decreasing environmental impacts without changing the user's behaviour	Examples- Integration of toilet and washbasin.

Table 38. Tang and Bhamra's 2008 classification of DfSB strategies and examples.

Eco-information – design oriented education

Aim: to make consumables visible, understandable and accessible to inspire consumers to reflect upon their use of resources.

How it works:	Examples:
1. Product expresses the presence and consumption of resources e.g. water, energy etc. 2. Product encourages the user to interact with resource use.	Power Aware Cord – Seeing Personal Energy Consumption (Interactive Institute, 2004). Tyranny of the Plug Kitchen Machines – Being involved in powering the product (Van Hoff, 2003).

Eco-choice – design oriented empowerment

Aim: to encourage consumers to think about their use behaviour and to take responsibility for theirs actions by providing them with options.

How it works:	Example:
Users have a choice and the product enables sustainable use to take place.	Domestic Energy Display – household system level concept (Design Council, 2005).

Eco-feedback – design oriented links to environmentally or socially responsible action

Aim: to inform users clearly about what they are doing and to facilitate consumers to make environmentally and socially responsible decisions through offering real-time feedback..

How it works:	Example:
The product provides tangible aural, visual, or tactile signs as reminders to inform users of resource use.	Wattson – wireless energy monitor which raises awareness of energy used in the home (DIY Kyoto, 2005).

Eco-spur – design oriented rewarding incentive and penalty

Aim: to inspire users to explore more sustainable usage through providing rewards to 'prompt' good behaviour or penalties to 'punish' unsustainable usage.

How it works:	Example:
The product shows the user the consequences of their actions through 'rewarding incentives' and 'penalties'.	Flower Lamp – Rewarding Energy Behaviours (Interactive Institute, 2004).

Eco-steer – design oriented affordances and constraints

Aim: to facilitate users to adopt more environmentally or socially desirable use habits through the prescriptions and/or constraints of use embedded in the product design..

How it works:	Example:
The product contains affordances and constraints which encourage users to adopt more sustainable use habits or reform existing unsustainable habits.	Unilever Powder Tablet – Counteracting excessive amounts of washing powder consumption by prescribing correct dose (Unilever, 2000).

Eco-technical intervention – design oriented technical intervention

Aim: to restrain existing use habits and to persuade or control user behaviour automatically by design combined with advanced technology.

How it works:	Example:
The product utilises advanced technology to persuade or control user behaviour automatically.	Energy Curtain – Interacting with Daily Light Cycles (Interactive Institute, 2004).

Clever design

Aim: to automatically act environmentally or socially without raising awareness or changing user behaviour purely through innovative product design.

How it works:	Example:
The design solution decreases environmental impacts without changing the user's behaviour.	Caroma integrated toilet and washbasin – decreases water use by re-using water for hand-washing to flush toilet (Caroma, 2008).

Table 39. Classification of DfSB strategies and examples (Lilley and Lofthouse, 2009, p.33).

Figure 40. Typical hotel-towel card.

Figure 40 displays the type of towel-reuse card most commonly used in hotels. In relation to the axis of influence mentioned above, this is a behaviour change strategy that solely informs the user, providing them with full-control in decision making.

Figure 41. Power Aware Cord.

Figure 41 displays the Power-Aware Cord; a cable designed to make users aware of their energy consumption by making energy visible.

Figure 42. Basketball Trash Bin.

Figure 42 displays a trash can that invites a desired behaviour by making it fun to do. Figure 43 below, displays a lamp that provides visual feedback by blossoming according to the user's energy-related behaviour.

Figure 43. Flower Lamp.

Figure 44. Puzzle Light Switch.

Figure 44 displays a light-switch that builds upon users' innate need for visual order; it nudges users to turn lights off through re-establishing the form of the visual pattern (see also Chapter 2: 'Critical reflection: Nudging = sustainability in disguise?').

Figure 45. Speed Bump.

Figure 45 displays a speed bump that forces drivers to decrease their speed. In relation to the axis of influence mentioned above, this is a behaviour change strategy that forces the user, taking away their control in decision making.

Figure 46. Musical stairs by Volkswagen.

Figure 46 displays Volkswagen's musical staircase (Fun Theory); a design experiment in a European subway, using fun as a medium to change human behaviour (they temporarily replaced the typical stairway with a musical one, resembling a piano; each step looked like a piano key, and made a sound when people stepped on it) trying to encourage people to take the stairs rather than the escalator. As they argue, 66% more people used the stairs during the time of the intervention because it was playful and fun and the novelty of the intervention caught people's attention.

Figure 47. Urinal Fly in Amsterdam's Schiphol Airport.

Figure 47 displays the Urinal fly; a design currently used in Schiphol airport's men's toilets and has managed to significantly decrease spillage, thus decreasing cleaning costs of the toilet.
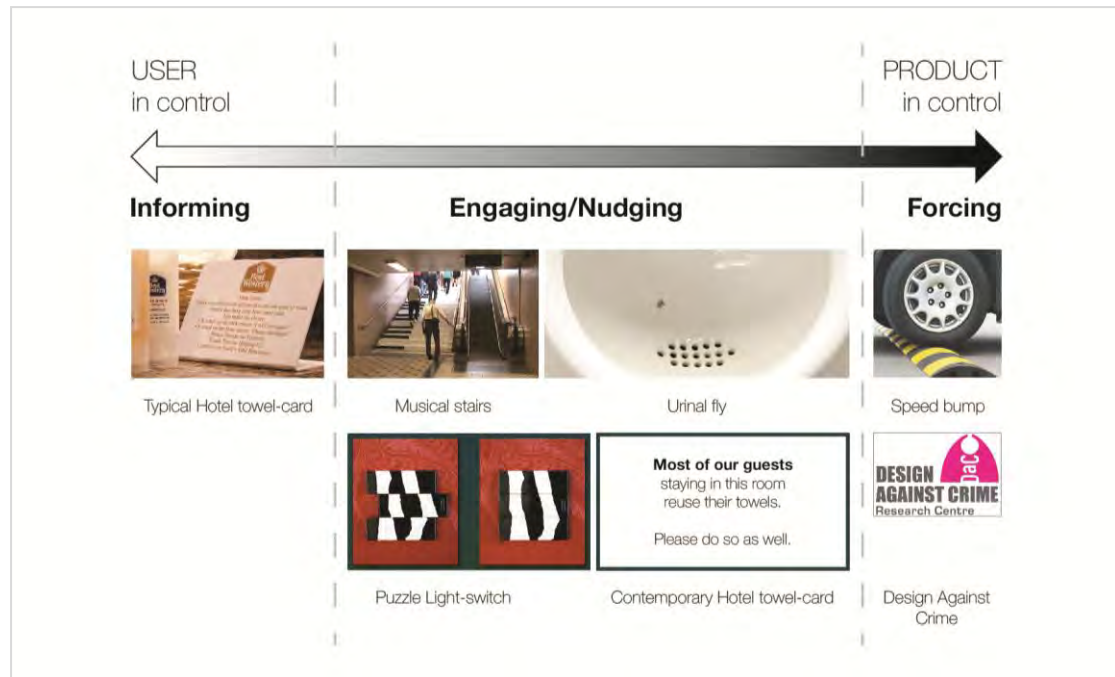
Figure 48. A proposed taxonomy of design examples with DfSB strategies.

By acknowledging the previous work in the field and gaining a personal insight, Figure 48 arranges the spectrum of DfSB strategies (axis of influence) with representative design interventions according to their levels of influence. For example, the 'speed-bump' is an approach to behaviour-change that forces an intended human behaviour; it is a very physical and tangible strategy for achieving a desired behaviour, which leaves the user with no control in decision making. On the other hand, the typical factual information provision 'hotel-towel card' is an approach to changing tourist's behaviour that is more intangible and gives the user full power in decision-making; the tourist can decide if they want to re-use their towels or not.

It would be useful to keep in mind that Design for Sustainable Behaviour interventions can be subject to "the Fallback effect", "the phenomenon in which newness of a change causes people to react, but then that reaction diminishes as the newness wears off" (Wilhite and Ling, 1995. In: Wood and Newborough, 2003, p.3).

2.6.3   DfSB tools

Even though DfSB is an emerging field of academic inquiry, there are already a number of inspirational tools designers can use for influencing human behaviour towards specific (sustainable) practices:

- Design with Intent Toolkit (Lockton, 2013)
- Design Behaviour Website (Lilley and Lofthouse, 2009)
- IDEO Method Cards (IDEO, 2003)
- Social Issue Cards (Lofthouse, 2013)
- Play Rethink (2009)
- Drivers of Change (Arup, 2009)
- Mental Notes (Anderson, 2010)
- Brains, Behaviour and Design (Pfarr et all, 2010).

Most of the DfSB tools mentioned here use a card-based format, and all of them provide useful information in visual and engaging ways in order to stimulate sustainable designers' creativity and encourage idea generation when addressing environmental and social issues. Here, it would be important to note that the format of the identified DfSB tools has influenced the design layout of this project's final design response (see Chapter 7).

2.6.3.1   Design with Intent Toolkit

Dan Lockton's (2013) "Design with Intent" toolkit is an especially rich source of inspiration for designers that aim to influence sustainable behaviour.[34] The toolkit is a set of 101 cards categorised into 8 world-view lenses (approaches) to tackle a behavioural issue:

- Architectural
- Errorproofing
- Interaction
- Ludic
- Perceptual
- Cognitive
- Machiavellian
- Security

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[34] The "Perceptual" and "Cognitive" lenses of Lockton's (2013) toolkit have directly informed this research project.

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The toolkit stimulates idea generation by asking questions and providing illustrated examples related to the specific subject matter.
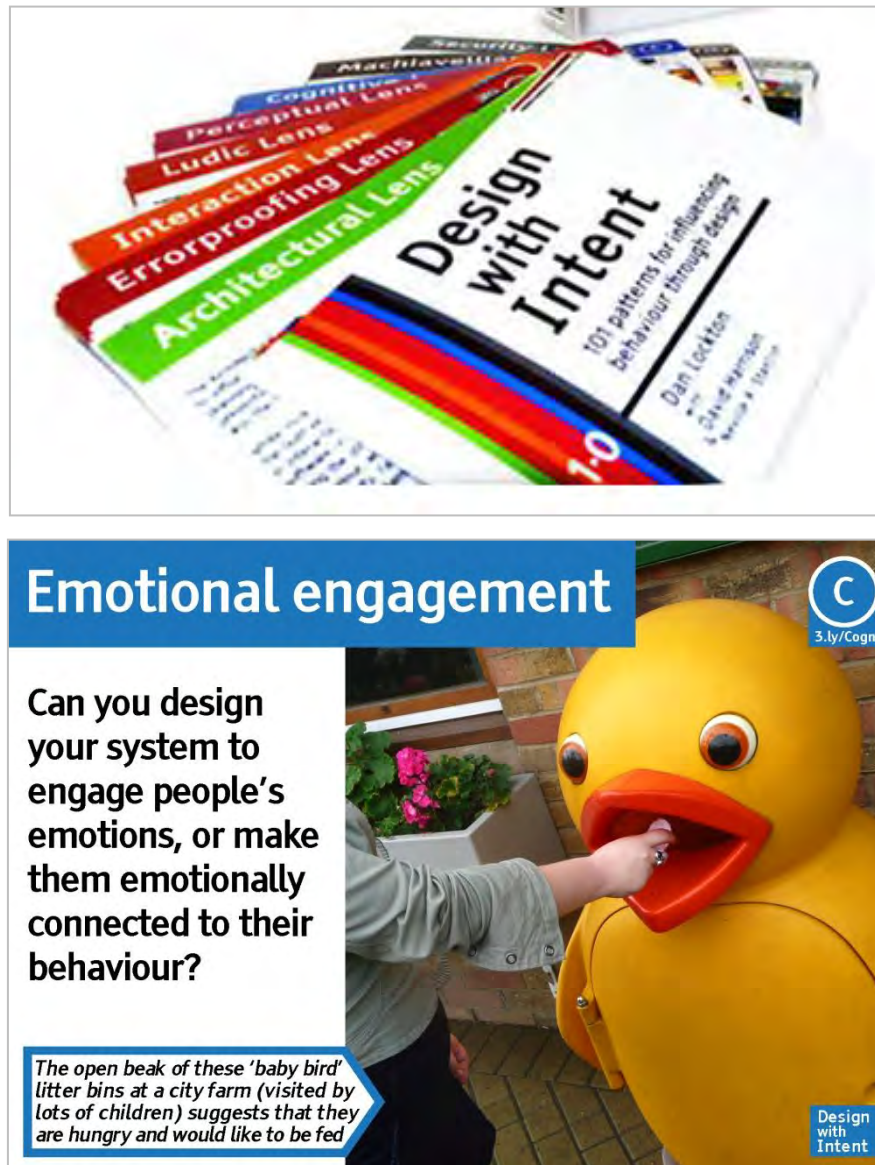
Figure 49. Dan Lockton's (2013) "Design with Intent" toolkit.

2.6.3.2   Design Behaviour Website

Lilley and Lofthouse's (2009) "Design Behaviour" website is an online resource specifically for designers, containing information about the emerging field of Design for Sustainable Behaviour through theory and practical examples. The website consists of 8 sections providing useful information and a wide range of illustrated examples and case studies that demonstrate

how other designers have approached the specific subject matter. Notably, the website contains an "Ethics of DfSB" section that discusses ethical issues and the responsibility of designers when using design to influence human behaviour towards desired patterns.
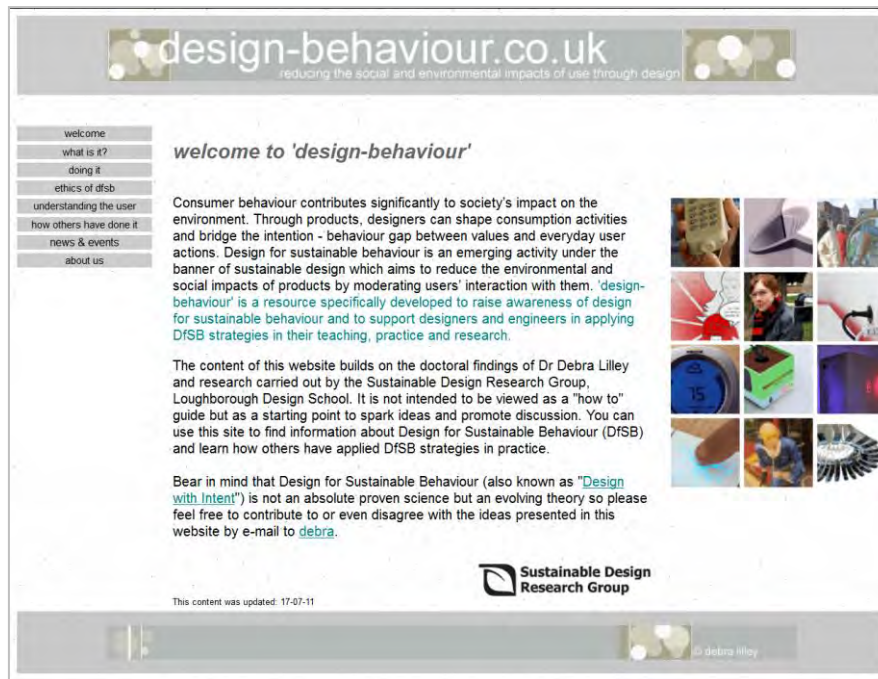
Figure 50. Lilley and Lofthouse's (2009) "Design Behaviour" website.

2.6.3.3   IDEO Method Cards

IDEO's (2003) "Method Cards" consist of 51 cards categorised under 4 groups:

- Learn
- Look
- Ask
- Try

Each card contains an illustrated example and a small explanation of "Why" and "How" designers should use the method during the design process.

Figure 51. IDEO's (2003) "Method Cards".

2.6.3.4   Social Issue Cards

Lofthouse's (2013) "Social Issue Cards" is a set of cards addressing various social issues. Each card asks a question and provides a design example that answers the question. This DfSB tool emphasises social issues and serves as an inspirational tool for designers.

Figure 52. Lofthouse's (2013) "Social Issue Cards".

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2.6.3.5 Play Rethink

Rethink Games have created "Play Rethink" (2009), a creative game that consists of various eco-design challenges, in order to stimulate sustainability-related idea generation. Due to its time constraints, the game could be particularly useful during the 'brainstorming' part of a design process.

Figure 53. Play Rethink" (2009).

2.6.3.6   Drivers of Change

Arup's (2009) "Drivers of Change" is a set of 175 cards grouped into 7 categories (drivers):

- Energy

- Waste

- Water

- Climate Change

- Demographics

- Urbanisation

- Poverty

Apparently, this DfSB tool addresses not only sustainability-related issues but also political and technological ones. Each card consists of an issue-description, a question, images and info-diagrams, which aim to stimulate discussion/debate between designers on specific factors that create a negative impact on the planet and society.

Source: ARUP

Figure 54. Arup's (2009) "Drivers of Change".

2.6.3.7 Mental Notes

Anderson's (2010) "Mental Notes" is a set of 50 cards that describe psychological insights into human behaviour and how those can be applied to digital design.
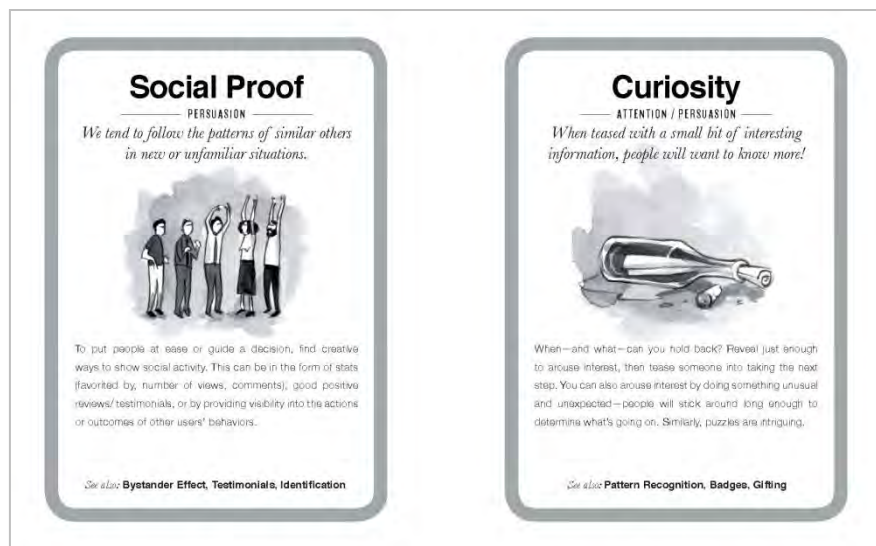
Figure 55. Anderson's (2010) "Mental Notes".

2.6.3.8   Brains, Behaviour and Design

Pfarr et al's (2010) "Brains, Behaviour and Design" is a toolkit for designers that can help them apply insights from Behaviour Economics to their design responses.
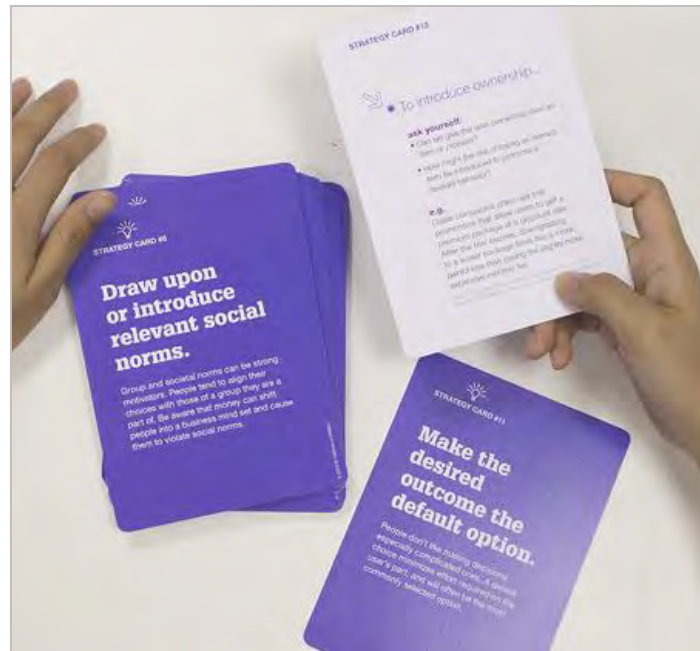
Figure 56. Pfarr et al's (2010) "Brains, Behaviour and Design".

2.6.4   Placing this project within DfSB models: 'Nudging' as a strategy to touristic behaviour change

As discussed, design solutions based on informing people into behaviour-change will demand the user's attention in order to be effective because the more the user is in control, the more cognitive load is required (Zachrisson et al, 2010). On the other hand, approaches for designing behaviour-change interventions based on 'forcing' behaviour change do not necessarily require the user's attention for a successful behaviour change to occur because the more the product is in control, the less cognitive load is required from the user (Zachrisson et al, 2010).

Nonetheless, as the following figure illustrates, this practice-based design research is not about solely raising awareness and educating tourists into sustainable behaviour, nor about forcing a change on tourists' behaviour either. Why not? Because, first, as will be discussed in Chapter 4, factual information provision is the conventional approach to changing human behaviour and, according to literature, knowledge-deficit models have been proved limited; otherwise we would have already won the fight against excessive drinking and eating behaviours. We need to engage people, not just direct information at them.

Second, as will be discussed in Chapter 3, forcing a behaviour may not be an appropriate approach for the context of tourism where behavioural freedom is an integral part of the experience of tourism and travelling (Duncan et al, 2002, p.21).

Therefore, this practice-based design research focuses on new DfSB strategies by following a 'Nudge' approach (Thaler and Sunstein, 2008) and employs contextual factors that influence human behaviour by triggering the automatic part of the human brain (System 1); a part that makes "intuitive, rapid, and associative" responses "without having to negotiate the cognitive layer" of our brains (System 2) (Payne, 2012, p.97). The concept of 'Nudge' is explicitly explained and discussed in the following parts of this thesis.
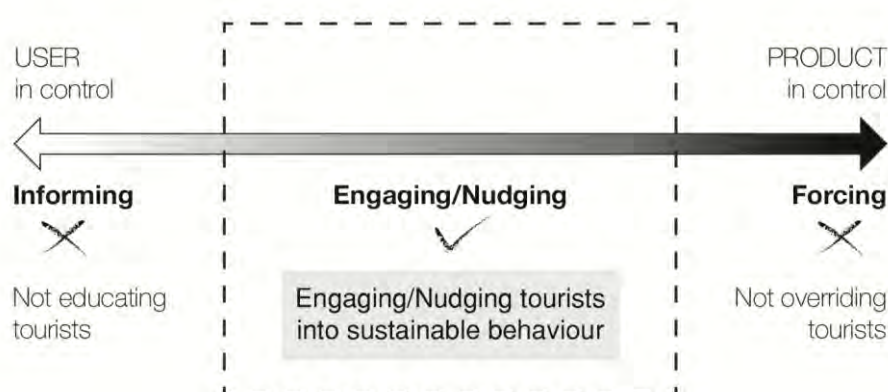
Figure 57. Placing this design-research within the spectrum of DfSB strategies.

2.7 Critical reflection: Nudging = sustainability in disguise?

When values of sustainability are concealed within other, more favoured[35] human attributes in order to persuade people to change their behaviour, then this practice is characterised in literature as a "Trojan Horse" (Edahiro, 2004) or a "tangential motivation" (Deterding, 2009) approach to behaviour change. For example, in "The World's Deepest Bin" (TheFunTheory.com, 2009) the intended sustainable behaviour is concealed inside the desirable element of 'play' and 'fun'. In this example, "the behaviour satisfies motives not directly related to the behaviour" (Deterding, 2009), and sustainability is not an end in itself; fun is the goal for users. Visitors of the park act sustainably (and throw their rubbish in the bin) in order to have fun (by hearing the sound produced by the bin), not necessarily because they want to act sustainably.

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[35] Favoured in terms of a given context.
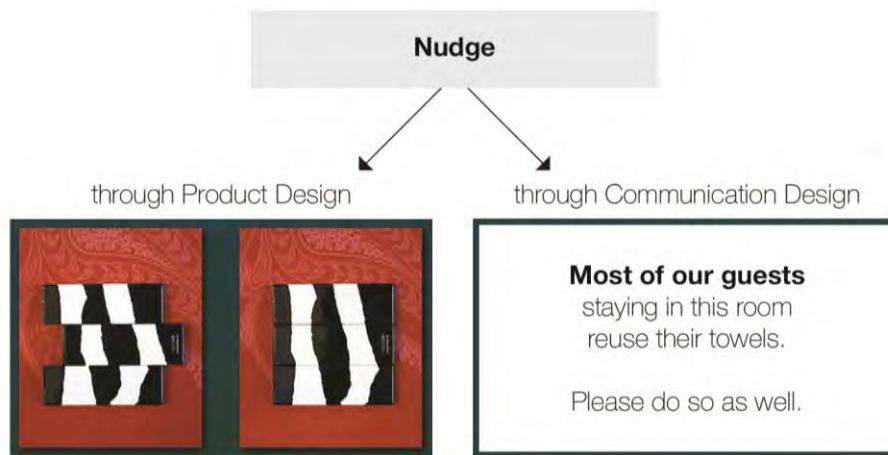
Figure 58. Applying the strategy of "nudging" (Thaler and Sunstein, 2008) to product-design (left image: Broms, 2011) and to communication-design (right image: adapted from Cialdini, 2007; Goldstein et al, 2008).

Likewise, the figure above displays two examples of "nudging" people to environmentally-friendly behaviour. The left image is an example of nudging through Product Design, that builds upon findings from Human Psychology in order to influence users to engage in intended practices. It is called the "AWARE Puzzle Switch", created by Loove Broms (2011) from Linköping University, Interactive Institute, Sweden. More specifically, as Broms (2015) argues, this design encourages sustainable energy usage "by playing with people's built-in desire for order." Again, this is a nudge because users are likely to switch lights off not necessarily because they want to act sustainably (save energy resources and/or minimise their negative environmental impact of using electricity), but most likely because they want to satisfy their innate need for visual order by re-establishing the distorted form of the product.

The image on the right is an adaptation of Cialdini's (2007) famous normative hotel-sign;[36] an example of nudging through Communication Design, that builds upon insights from Behavioural Science in order to encourage people to engage in environmentally-friendly practices. More specifically this design approach builds upon human's innate need for approval, belongingness, and the protection of their social reputation. This is a nudge because message-receivers may re-use their hotel-room towels not necessarily because they want to act sustainably (minimise the negative environmental impact of using energy and water resources), but most likely because, as Payne (2012, p.20) explains, they want to avoid being "the odd-ball in the group" (i.e., belongingness) by acting in the way most hotel visitors do (see also Chapter 4: 'Norms (The principle of Consensus)').

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[36] See also Goldstein et al, 2008; Griskevicius et al, 2008.

What is common in all aforementioned examples is that people do one thing in order to finally do another; in other words, people, consciously or unconsciously, go through sustainable behaviour in order to reach a different target.
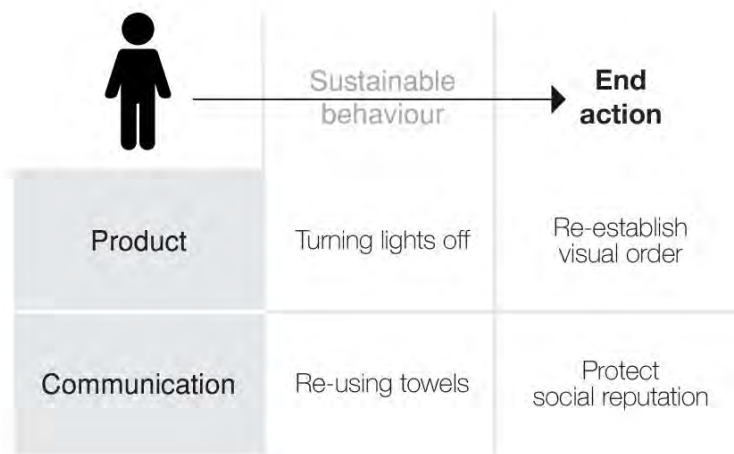
Figure 59. Taking sustainable actions only to satisfy other, more favourable human attributes.

Furthermore, what was noticed from detailed analysis of multidisciplinary literature is that many influence strategies (and the linguistic manipulations that build upon them) mostly exploit a single contextual factor for influencing human behaviour: *reputational concerns*, i.e. humans' innate need for protecting their social reputation. That is why it is important to note here that, as Corner (2012, p.34) argues, if sustainability is not an end in itself, and "people are only going green 'to be seen', then their level of engagement with the broader issue of sustainability is likely to be fairly shallow." Being critically reflective, one could argue that the unspoken subtext in "nudging" (Thaler and Sunstein, 2008) as an approach to sustainability is that people may be influenced to behave environmentally-friendly, without them having the necessary environmental concerns as the primary intention behind their action and/or possibly, as Zachrisson et al (2010, p.5) argue, without even realising that they are being influenced.[37]

This analysis arguably leads to a dilemma about the ethical dimension of 'human choice': On the one hand, "it could be argued that the invisible nature of an intervention may be critical to its success in persuading the user to change their behaviour" (Lilley, 2007, p.35). On the other hand, "by removing decision making from the user and preventing

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[37] "… perhaps the most serious obstacle to the nudge revolution is public acceptability. Although nudges are intended to be helpful and preserve freedom, many people feel there is something sinister about interventions designed to change their behaviour without them necessarily realizing it." (New Scientist, 2013, p.36)

'unsustainable' actions we separate cause and effect. Without feedback on cause and effect users may be less likely to learn from, and adapt, their behaviour accordingly. [...] Further investigation is needed to determine where automation of actions is acceptable and where choice is preferred." (Lilley, 2009, p.716). Notably, Hall (2014) points out:

> "What, after all, is the point of encouraging governance mechanisms such as partnerships, network development, self-regulation and individual responsibility if they continue to have no practical effect on the sustainability of tourism and consumption? If the ethical value of "individual choice" leads to increased emissions from lifestyle and travel actions and worsening environmental change then how ethical is it?"
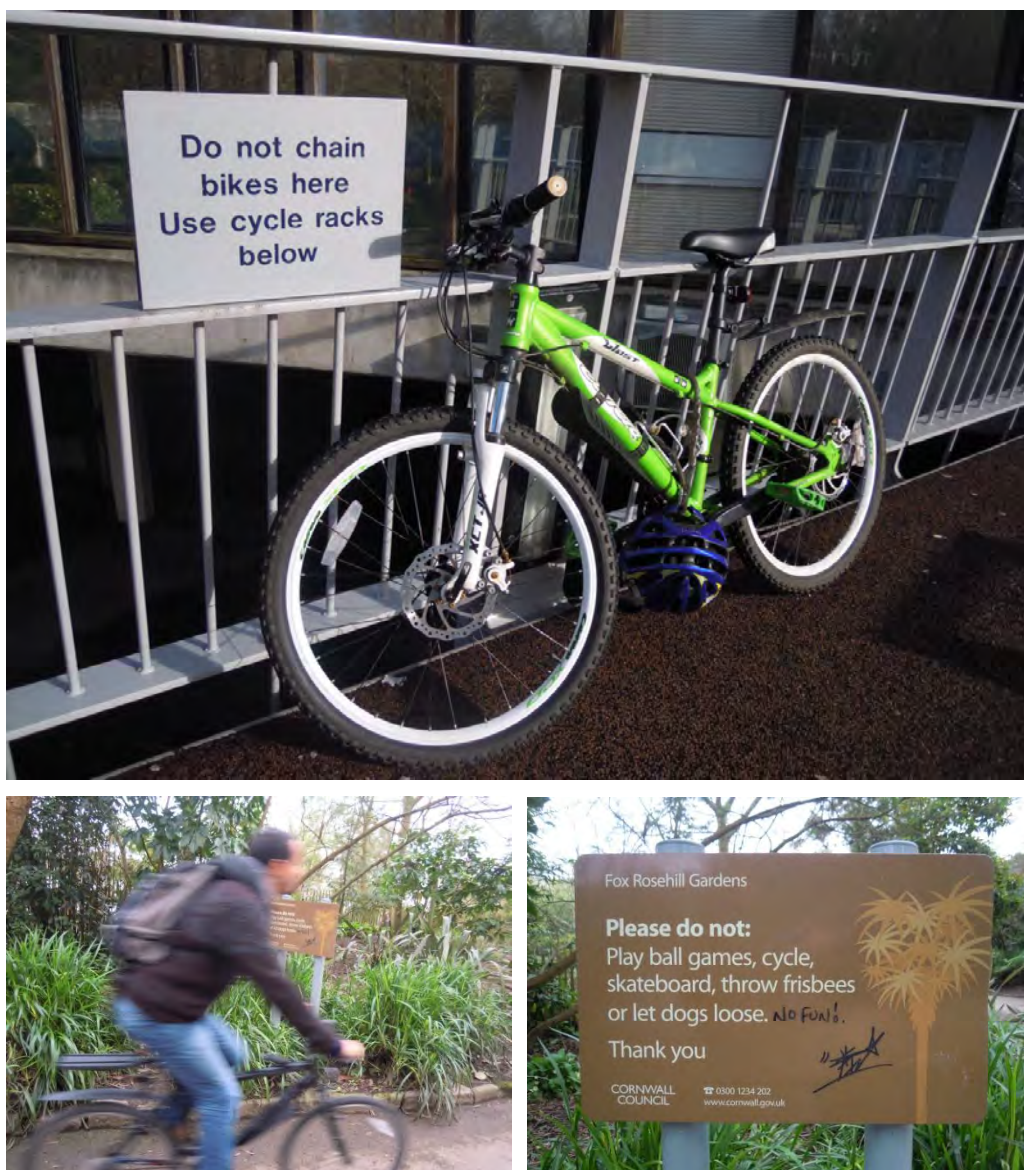
Figure 60. "Humans remain at liberty to make the 'wrong' choice": examples of behaviour change interventions that give the user full power in decision-making (New Scientist 2013; all photos by author).

Lastly, the above critical reflection leads to a deduction: when designers apply Human-Centred Design (HCD) methods and draw conclusions to inform their design processes, it is important to be aware that sustainability may not necessarily be an end in itself for users observed within a nudging context of influencing human behaviour (Hausman, 2010). Additionally, based on the above observations, another question arises here that seems fundamental to the field of DfSB: "is it better to educate the consumer and risk failure or overrule users and 'force' behavioural changes in order to achieve demonstrable results?" (Sustainable Design Research Group (SDRG), 2011). Taking the above into consideration, the author designed and conducted a workshop on "Design for Sustainable Behaviour" with second-year undergraduate sustainable product design students at Falmouth University (Design Centre) in order to ask the exact same question, aiming to get a better understanding of the perceptions of future designers on behaviour-change strategies and the designer's responsibility (see also Chapter 6: 'Lecture with Sustainable Design students'). Notably, most of the students were in favour of over-riding the human part of the system. The sample of design students was small (approximately 15 participants), nevertheless their answers provided an indication of the reservations of the next generation of designers on 'collective human decision-making'.

Here, before a detailed discussion on the responsibility of designers to address concerns of human purpose takes place in the following Chapter, a concern can be raised: What are we trying to achieve as designers? Does the end justify the means? Do we envision a future where we leave all our decision-making to the technologies surrounding us, ignoring the human part of the system? If designers are "agents of social change", as Papanek (1984) characterises them in his book "Design for the Real World", then this means they have a capacity for shaping people's behaviour through the products, services, communications and environments they create. Inevitably, this power comes with great responsibility, therefore, designers need to be considerate when applying the nudge approach; filling-up our societies with designs that lack informed choice but only nudge people towards certain actions then, as Lilley (2009) estimates, our societies may lack the vision of the bigger picture of human action and its impact (positive or negative). If today we find it easy to allow technology to drive our car (Guardian, 2014b) maybe tomorrow will be just as easy to permit technology to drive our life?

2.8   Conclusions from Chapter 2

Chapter 2 identified the widely recognised need to encourage sustainable consumption and discussed how the behaviour of tourists is a major determinant of the industry's contribution to CO_2 emissions and, thus, climate change. It also identified the need to focus on a behavioural point of view, not a technical one, in order to further Sustainable Tourism in Cornwall.

This Chapter acknowledged the need to move away from our obsession with technological possibilities and employ a more systemic approach to understand and influence the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns, during CO_2-related Human-Artefact interactions within the context of Cornish accommodation-provision. Notably, the decision to challenge conventional approaches to changing human behaviour and employ a "nudging" approach for furthering Sustainable Tourism is a conclusion also drawn from Chapter 4. Nevertheless, the author's research on particular texts and theoretical models from the literature review on the emerging field of Design for Sustainable Behaviour (DfSB) can confirm that "nudging" is an approach endorsed by design-led research into behaviour-change. This discovery reinforced the project's direction, thus, this practice-based research directly builds upon DfSB thinking and hopefully contributes to a new development of DfSB strategies.

Here, it seems appropriate to note that the acknowledged complexity of consumer behaviour and the identified importance of the use-phase of a product/system in regards to environmental and social impact reveal a necessity for: first, "looking beyond an understanding of environmental behavioural change that suggests that just providing information is sufficient for consumers to make 'rational' or 'appropriate' choices" (Hall, 2014, p.281), and secondly, a need for academic research in sustainable design to increase its interest in issues of sustainability related to consumer behavioural decisions during the use phase of a product (Pettersen and Boks, 2008, p.107; Elias et al, 2008).

Therefore, the research question that arises here is: How can we influence the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patters?

Chapter 3: Communication Design – The Power of Words

"You cannot hold a design in your hand. It is not a thing.

It is a process. A system. A way of thinking."

– Bob Gill (In: Ambrose and Harris, 2010, p.6.).

"What we've got here is failure to communicate.

Some men you just can't reach."

– 'Cool Hand Luke' film, 1967.

3.1 Summary of Chapter 3

Keywords: *design, conventional design, capitalism, sustainable design, Product/Service/System (PSS), design thinking, the common good, language, words, persuasive communication design, message framing, behavioural request, semiotics, meaning, personal interpretation, critical reflection.*

Chapter 3 provides a comprehensive contextual review of "Communication Design", bringing together and analysing contemporary theoretical approaches and principles for communicating and influencing human behaviour towards intended patterns. Additionally, this Chapter is enhanced through a synthesis of illustrated examples and case-studies that provide a better understanding of the subject matter. It therefore answers the question posed in the previous Chapter. This means that (Communication) Design is used as a medium to influence the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns and, thus, promote Sustainable Tourism in Cornwall.

Moreover, this Chapter acknowledges the role of design in furthering human behaviour change towards desired practices, but also illustrates the need to challenge conventional approaches of design, where by default a tangible artefact is considered 'the solution' to a problem (and design is only regarded as a way of doing), and adopt contemporary, Sustainable Design approaches, where design is also a way of thinking at a systemic level. For example, "strategic design for sustainability" and "Product-Service-Systems (PSS)" (Manzini et al, 2001; 2003; 2008), where co-designing new community-based services rather than imposing innovation solely on a product level (thus, promoting a Functional rather than an Industrial Economy) can be "a possible answer to the sustainability challenge" (Mont, 2002, p.237). By doing so, this Chapter critically reflects on Sustainable Design and the main barrier to the widespread adoption and implementation of a Functional Economy.

As design-research within academia, this project explores these issues free from having to convince the agenda of commercial enterprise and capitalism, and challenges Design's current "lightweight, decorative role of little consequence" (Heskett, 2002, p.2), "limited to the outer surface of things" (Manzini. In: Seago et al, 1999) by exploring "more radical solutions" (Barr et al, 2011, p.714) and "imaginative avenues that appear to be worthwhile" (Walker, 2014, p.130), thus, accepting Sustainable Design's responsibility to address concerns of human purpose and "basic questions of existence" (Heskett, 2002, p.2), aiming to "contribute to the common good" (Walker, 2014, p.129).

Since "the way in which a message is framed affects the amount of persuasion it elicits" (Smith et al, 1996), this Chapter, first explains the relationship between language, words and design, then uses IDEO's (2011a) and Goldstein et al's (2008) case studies to unfold the

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rationale for choosing 'Communication Design' as a medium for influencing sustainable consumer/touristic behaviour to further Sustainable Tourism in Cornwall. In doing so, this Chapter also advises designers on issues of the (mis)interpretative nature of 'communication', either through form or words.

Last, by giving a clear explanation of evidence used to come to this conclusion, this Chapter identifies the need to emphasise a values-based approach to communicating and influencing sustainable behaviour of tourists visiting Cornwall: an approach that challenges the conventional overreliance on Self-Enhancing (extrinsic) values but energises tourists' Self-Transcendent (intrinsic) values.

3.2 Conventional design vs. Sustainable Design

"Design is to design a design to produce a design."
– Heskett, Toothpicks and Logos: Design in Everyday Life, 2002, p.5.

As discussed in Chapter 2, many authors argue for the importance of 'Design' as a powerful means of influencing human behaviour towards more sustainable practices (Thackara, 2005; Walker, 2006; Bhamra et al. 2008; Lilley, 2009; Zachrisson and Boks, 2011). Here, one needs to ask oneself: what exactly do we mean by 'Design'?

The answer is not simple. According to Heskett (2002, p.5), "'Design' has so many levels of meaning that it is itself a source of confusion. It is rather like the word 'love', the meaning of which radically shifts dependent upon who is using it, to whom it is applied, and in what context." Likewise, Friedman (2008. In: Lockton, 2013, p.90) argues that "design is becoming a generalisable discipline that may as readily be applied to processes, media interfaces or information artefacts as to tools, clothing, furniture or advertisements. To understand design as a discipline that can function within any of these frames means developing a general theory of design." This can explain why this practice-based design research is considered, to use Lockton's (2013, p.90) words, an "application of multidisciplinary approaches".

"For a century or more design's emphasis has been entirely in tune with the ideology of materialism." (Walker, 2014, p.74). "Designers have traditionally focused their energies on physical objects, seeking to optimise their functionality, usability, and desirability." (Kretchmar et al, 2015); a "contemporary obsession with styling for its own sake", as Seago et al (1999, p.15) would argue. "Consequently, the next 'big thing' has been a major focus for design; it has driven consumption and fuelled economic growth." (Walker, 2014, p.74). More specifically, in the words of Manzini and Susani (1995. In: Seago et al, 1999):

> "In many design studios a great deal of time is now spent changing a curve simply to make it different from that of a competitor's product.... These techniques and tricks have always been used by industry and, at times, have even produced brilliant results. Now, however, they are transforming design into a meaningless and endless process of reworking. A great many creative and sensitive people.... are no longer able to keep up with this 'creative vomit' [...] For the vast majority of individual consumer articles now on the market, aesthetic design is now limited to the outer surface of things".[38]

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[38] Here, it would be beneficial to add Heskett's (2002, p.2) similar viewpoint on conventional design: "To suggest that design is a serious matter in that sense, however, is problematic. It runs counter to widespread media coverage assigning to it a lightweight, decorative role of little consequence: fun and entertaining – possibly; useful in a marginal manner – maybe; profitable in economic sectors dominated by rapid cycles of modishness and redundancy; but of no real substance in basic questions of existence."

"So how can design be understood in a meaningful, holistic sense? Beyond all the confusion created by the froth and bubble of advertising and publicity, beyond the visual pyrotechnics of virtuoso designers seeking stardom, beyond the pronouncements of design gurus and the snake-oil salesmen of lifestyles, lies a simple truth. Design is one of the basic characteristics of what it is to be human, and an essential determinant of the quality of human life. It affects everyone in every detail of every aspect of what they do throughout each day. As such, it matters profoundly." (Heskett, 2002, p.4). This idea is reinforced by many others; for example, Walker (2014, p.129) argues that "[f]or the contribution of design to be worthwhile and meaningful, it cannot simply produce difference and novelty as a way of stimulating sales. Such a role diminishes the discipline to a mere tool of capitalism and denies its responsibility and potential to contribute to the common good".

Moreover, Kretchmar et al (2015) explain that "helping people make needed changes in their lives requires more than physical objects. [...] Designing for sustainable change means finding the right mental model." Similarly, as Ceshin (2011, p.14) describes, "If we want to effectively tackle sustainability, there is a need to move from a focus on product improvements only, towards a wider systemic approach that takes in consideration new potential ways of satisfying the social demand of wellbeing."
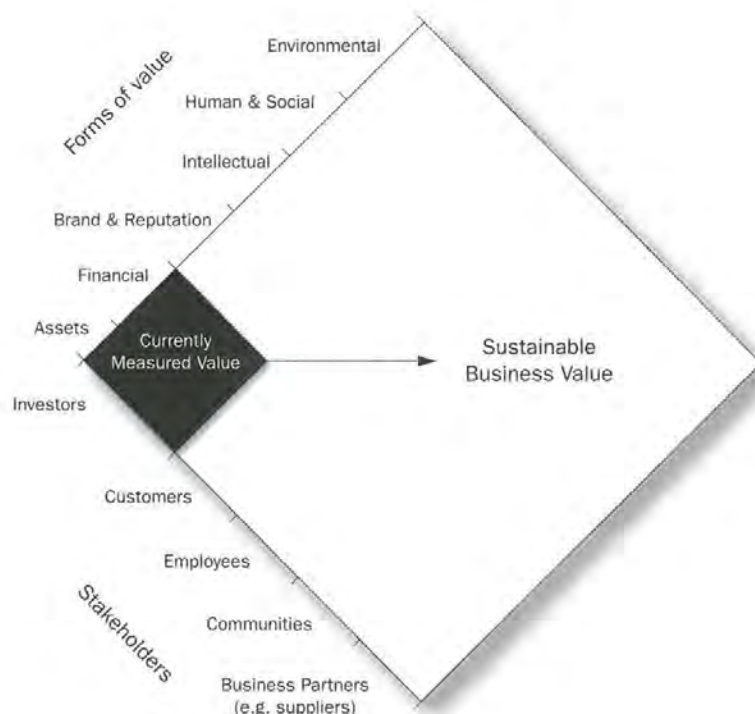
Figure 61. "The future of 'sustainable business value'" (Fuad-Luke, 2009).

3.2.1 Design research in academia

The author of this thesis has a background and a strong interest in design, based on his studies: B.Eng from a 5-year full-time course at a Polytechnic University, University of the Aegean (Greece), in "Product and Systems Design Engineering"; MA (Distinction) in "Innovation, Sustainability and Design" from Lancaster University (UK), and an Erasmus participation certificate from TU Delft (Netherlands), the department of "Industrial Design". Based on his extensive academic studies in Sustainable Industrial Design, the author argues that one vital difference between a conventional designer and a sustainable designer can be found in the design criteria each one establishes for initiating their design process.

More specifically, a conventional designer's typical approach is usually to create a tangible product as 'the solution' to a problem. On the contrary, a sustainable designer usually starts the design process by concerning themselves with "basic questions of existence" (Heskett, 2002, p.2), having in mind the promotion of environmental and/or social benefits. This way of approaching an issue can lead to a design response that may not necessarily be a product; it can be the design of a service, or the combination of an eco-product and a service, or the design of strategic solutions at a systemic level. Therefore, a fundamental difference between conventional and Sustainable Design is that the design process shifts "from style to purpose" (Day, 2002) and minimum negative environmental and/or social impact is default within the design criteria.

In that sense, a sustainable designer becomes "a critical interpreter of design processes and their relationship to culture and society, rather than a skilled technician preoccupied by the minutiae of industrial production, or a slick but intellectually shallow semiotician." (Seago et al, 1999, p.16). That notion is endorsed by Papanek (1984) who refers to designers as social-change agents, arguing that design can influence human behaviour and shape the processes of a society, contributing to "the improvement of the quality of life" (Core77, 2008).

Conventional design	Sustainable design
- Default approach: a physical, tangible object as 'the solution'.	- Default approach: promote social and environmental benefits.
- Innovation purely on a technological level.	- Dematerialising; viewpoint of human behaviour.
- Form follows function	- "Form follows meaning" (Walker, 2013)
- Design solely as a way of doing	- Design also as a way of thinking
- Design as answers	- Design as material questions, stimulating discussion/debate (Dunne and Raby, 2001)
- A tool for capitalism, aiming to convince the agenda of commercial enterprise.	- Design that encourages reflective practices, aiming to contribute to "the common good" (Walker, 2014)

Figure 62. A comparison between conventional and contemporary design practices.

Moreover, the contemporary discipline of Sustainable Design "allows the development of critical responses and a sceptical sensibility towards the ideological nature of design" (Seago et al, 1999, p.14), as well as "the experimental function of contemporary design practice in order to counteract the contemporary obsession with styling for its own sake." (Seago et al, 1999, p.15). As Walker (2014, p.129) explains, "Design in academia has the opportunity to focus on fundamental, conceptual design in ways that are often more difficult to justify in corporate culture. Design at universities has the capacity and freedom to critique current approaches, examine their insufficiencies and explore new possibilities in ways that are removed from the day-to-day priorities of design consultancy, and, in view of the urgent requirement for alternative, more benign ways forward, it has an obligation to do so."
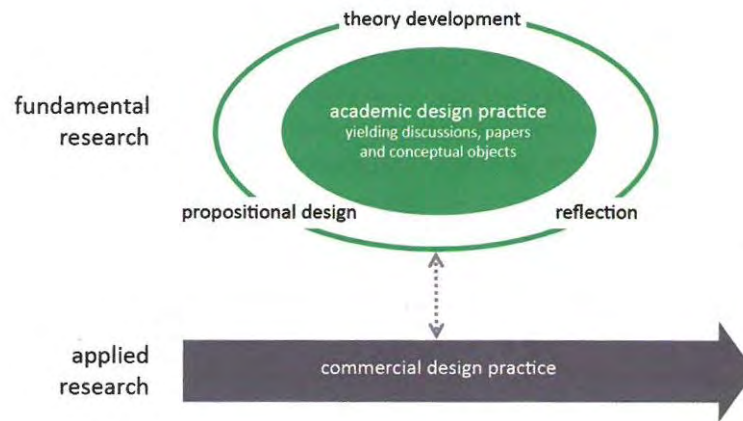
Figure 63. Walker's "fundamental design research in academia" (Walker, 2014, p.130).

Based on the above insights from the literature review, this practice-based design research addresses the recognised need to challenge conventional design approaches (Manzini et al, 2008; Ceschin, 2011; Walker, 2014; Mont, 2002). This means that this research project employs the area of 'Design' (and 'Design Research') as a medium to behaviour-change, but at the same time it also acknowledges that innovation on a product level alone is important but not enough to create conditions for sustainability (Ceschin, 2011).

Moreover, even though this project collaborates with a business partner (CoaST Ltd.) in the 'real world', it does not have a primary focus to create design responses that are profitable or generate a commercial type of value, because in this way, as design research within academia, it limits its potential to produce new knowledge and further intellectual and emotional understandings of the world we live in. In other words, this design research does not aim "to develop potentially viable 'solutions' that can be tested or measured against some predetermined, pragmatic criteria. Rather, its purpose is to probe and challenge assumptions and to explore other, imaginative avenues that appear to be worthwhile. The objective of this kind of work is not necessarily to convince but to raise questions by exploring new design directions based on sound reasoning, which can be informed by emerging research in other fields." (Walker, 2014, p.130).

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3.2.2 Product/Service/Systems (PSS): from 'industrial economy' to 'functional economy'

As we discussed in the previous Section, Sustainable Design needs to remove itself from the boundaries of an industrial economy and operate within a functional economy, because a functional economy can lead to the creation of a truly sustainable society (Stahel, 1989. In: Mont, 2002, p.238).[39] More specifically, as Stahel (1986; 1989. In: Ceshin, 2011, p. 14) explains:

> "we should move from an *industrial* economy, in which the central value is based on the exchange of products to be consumed and in which growth is strongly linked to resources consumption, to a *functional* economy, in which products are mere means of providing functions. A functional economy is oriented to satisfy consumers through the delivery of functions (e.g. mobility; thermal comfort; having clean clothes) instead of products (e.g. cars; boilers and methane; washing machines and powder)".

Likewise, Manzini et al (2008) argue that Sustainable Design can address the design of new community-based services rather than solely new tangible products, and can redefine unsustainable patterns of production and consumption at a systemic level through "strategic design for sustainability" or "product-service systems (PSS)"; an innovation strategy where the business focus is no longer the design of a physical product but the design of customer satisfaction in more intangible ways (Manzini et al, 2003; Baines et al, 2007).

Compared with conventional business models, a PSS[40] is designed to be dematerializing,[41] using fewer materials to achieve customer satisfaction, focusing on the 'function' rather than the 'product' itself (Mont, 2002). The concept of car-sharing is a good example of a PSS provision: The company sells the use of the product; the customer does not own the product; customer satisfaction is achieved through the delivery of the function (mobility) rather than the product (car). This innovative strategy can be "a possible answer to the sustainability challenge" and has the potential to decrease the impact of production and consumption on the environment because fewer materials are needed, which in turn means fewer resources being exploited and less waste being created (Mont, 2002, p.237).

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[39] As John Thackara explains, "the sharing of resources optimally is one of the key features of what a sustainable life would be like" (4DaysHFX, 2010).

[40] There are many popular definitions of P.S.S (Baines et al. 2007, p. 3). Mont (2002, p.239) defines a Product/Service/System (PSS) as "a system of products, services, supporting networks and infrastructure that is designed to: be competitive, satisfy customer needs and have a lower environmental impact than traditional business models."

[41] The concept of dematerialization refers to the reduction of physical materials needed to place value on customer satisfaction (UNEP, 2002; Mont, 2004; Baines et al, 2007; Tukker et al, 2006. In: Ceshin, 2011, p.15).
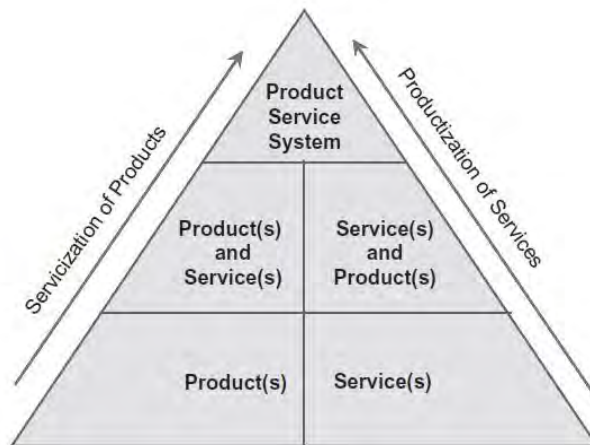
Figure 64. Considering the product and the service "as a single offering" (Baines et al, 2007, p.4).

PSS as a design strategy questions established conventions of production and consumption, "challenges the traditional 'owning' and 'possessing' culture" (Marchand et al, 2010, p.1440) and has the capability to provide alternative ways to satisfy consumer needs. Moreover, by thoughtfully repairing, maintaining, and upgrading the products/environments people already have at their disposal can create an emotionally-durable connection with our material culture (Chapman, 2005), promoting 'gratefulness' [42] and encouraging people to appreciate and be grateful of what they already own. In turn, that can promote a consumer behaviour that stops feeding the values of 'a throw-away society' and can potentially free humans from the trap of consumerism in which more is never enough. [43]

Notably, one could argue that Tourism already offers a fertile ground for planting the seeds of PSS, because as an industry it already consists of the concepts of 'ownerless consumption' and 'functional economy'. For example, many touristic experiences already build upon the notions of 'renting' (e.g. transportation) and/or 'sharing' (e.g. accommodation), where tourists (consumers) derive their satisfaction through the delivery of the function rather than owning the product itself.

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[42] Learning to look at our life, and consequently at our material culture, through a 'gratefulness lens' can significantly increase our levels of happiness and well-being (Haidt, 2006).

[43] "consuming less because of a value system that promotes simplicity" (Kollmuss et al, 2002, p.257).

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Author (date)	Definition of product service-system
Goedkoop et al. (1999)	'A product service-system is a system of products, services, networks of "players" and supporting infrastructure that continuously strives to be competitive, satisfy customer needs and have a lower environmental impact than traditional business models'.
Centre for Sustainable Design (2001)	'A pre-designed system of products, supporting infrastructure and necessary networks that fulfil a users needs on the market, have a smaller environmental impact than separate product and services with the same function fulfilment and are self learning'.
Mont (2001)	'A system of products, services, supporting networks and infrastructure that is designed to be: competitive, satisfy customer needs and have a lower environmental impact then traditional business models'.
Manzini (2003)	'An innovation strategy, shifting the business focus from designing (and selling) physical products only, to designing (and selling) a system of products and services which are jointly capable of fulfilling specific client demands'.
Brandsotter (2003)	'A PSS consists of tangible products and intangible services, designed and combined so that they are jointly capable of fulfilling specific customer needs. Additionally PSS tries to reach the goals of sustainable development'.
Wong (2004)	'Product Service-Systems (PSS) may be defined as a solution offered for sale that involves both a product *and* a service element, to deliver the required functionality'.
ELIMA (2005)	'A product service-system is defined as a system of products, services, supporting networks and infrastructure that is designed to [be]: Competitive, Satisfy customer needs, & Have a lower environmental impact than traditional business models'

Table 65. "Popular definitions of a Product-Service-System" (Baines et al. 2007, p. 3).

3.2.3 Critical reflection: Identity through Product Ownership – The Achilles' Heel of Functional Economy (PSS)

In Asian cultures, owning an ivory trinket is seen as a symbol of social status; unfortunately, as a result, thousands of African elephants are slaughtered to satisfy the 'needs' of the ivory market (Guardian, 2013c). This is an example of how our own, mind-based perceptions and expectations of 'the good life' create a negative impact on the environment. Nevertheless, cultures, lifestyles, as well as the importance we attach to material goods, are all a human choice that, fortunately, can be challenged and changed.[44]

As discussed above, the contemporary field of Sustainable Design promotes the concepts of 'ownerless consumption' and 'functional economy', and that is "something which represents a real challenge for conventional product design" (Marchand et al, 2008, p.1167). On the one hand, the keystone of functional economy is based on the notion that customer satisfaction can occur through the 'function' of a product and not the 'product' itself (Mont, 2002, p.238) and that people will not actually demand the product per se if they can derive evident satisfaction from it (Manzini et al, 2003, p.851). On the other hand, this fundamental notion of Sustainable Design is at the same time the Achilles' heel of the PSS model. Because as Mont (2002, p.244) advocates, it is still too soon to say if consumers are ready to accept this ownerless consumption model through which they can fulfil their needs. Positively, more people are starting to pursuit alternative, sustainable lifestyles (Marchand et al, 2008, p.1164), but as Mont (2002, p.244) explains, a closer examination of conventional consumer behaviour in industrialized countries would reveal that most customers still show obvious interest in owning the product itself.

Based on Desmond (2003), one possible explanation for this unwavering human behaviour is because consumption (buying and owning products) gives humans a sense of personal identity: "Material goods and services are not just functional artefacts. They derive their importance, in part at least, from their symbolic role in mediating and communicating personal, social, and cultural meaning not only to others but also to ourselves" (Jackson, 2006).

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[44] Design for Sustainable Behaviour can play an important role in shifting our mind-created expectations of the 'good' life towards pro-environmental patterns; for example, as the Sustainability manager of a Cornish hotel that promotes Sustainable Tourism describes: "… as for like showers, and taps, and toilets we have low-flow, so it still **feels like** it's a heavy powerful shower but it is actually not using as much water as typically." (see also Appendix 5: 'Personal Interview E').

Thus, despite the benefits agitated in literature, an important barrier in the widespread adoption and implementation of PSS is the cultural specificity of developed countries to place value on the ownership of products that meet their needs. Because, if consumption is considered a way to:

- "show our uniqueness and separate us from the rest of the crowd" (Csikszentmihalyi, 2000), and
- be socially accepted and belong to the group/tribe (Durning, 1992),

then that could possibly explain the difficulty of developed societies for a cultural change from consumption based on 'ownership' to consumption based on 'use'.

Leading voices on sustainability point out that these times of human, environmental and social turbulence urge us to re-evaluate our relationship with our material culture (Fuad-Luke, 2009; Walker, 2014); they argue that the discipline of design needs to re-think its role in addressing those issues, and decide if it follows the priorities of commercial enterprise and capitalism, or if it challenges a currently environmentally-destructive agenda and seeks "for alternative, more benign ways forward".

3.3 Sustainable by Communication Design

Before explaining the reasons why this project has come to the conclusion of using language (text-based messages) as the principal mechanism for furthering sustainable behaviour in Tourism, at this point, one can reasonably wonder: what does 'Design' have to do with language and words? The answer is simple: because "communication is an object of design" (Aakhus, 2007, p.113). Design is a discipline that consists of many areas: artefacts, services, systems, environments; communication is also an area of Design that can drive further the agenda of environmental and social sustainability (The Living Principles, 2015; Fuad-Luke, 2009). "Different solutions can be produced for any given brief and these can differ widely in levels of creativity, practicality and budget." (Ambrose et al, 2010, p.6).

Moreover, according to Kaptein et al (2012, p.3), there is "a clear distinction between an *influence strategy* – the general description of the psychological process that produces the persuasion – and its *implementation(s)*." This means that each area of Design can be a unique medium for the application and delivery of persuasion strategies (see following figures). This research project uses the medium of Communication Design, therefore, all identified strategies of influence will be applied in this medium (see also Chapter 5: 'Elements of Persuasion').
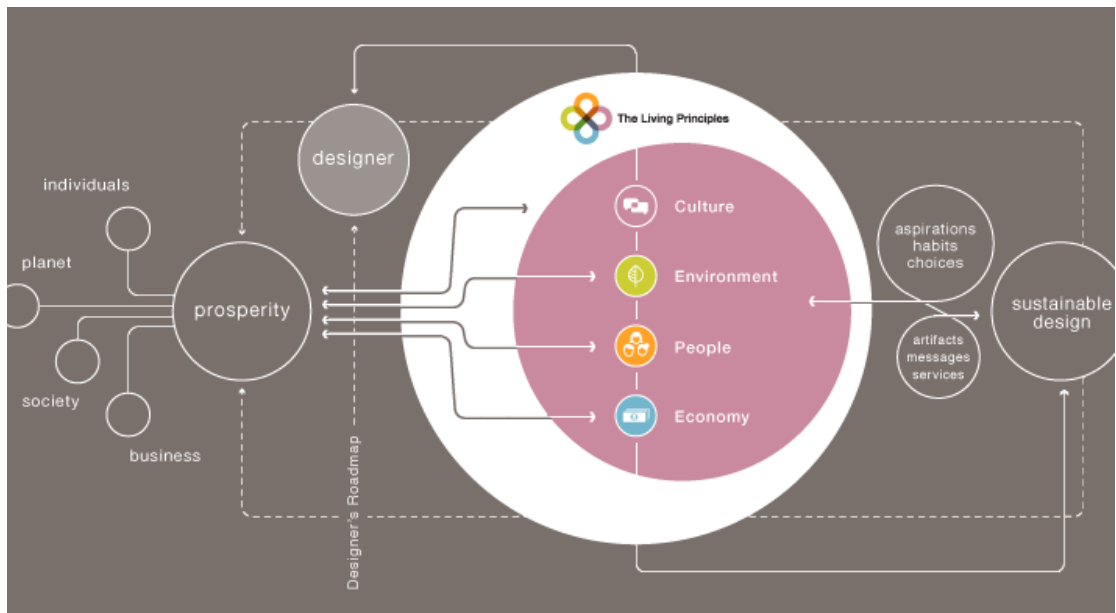
Figure 66. A framework that illustrates the role of design (artefacts, messages, services) in promoting sustainability (image source: The Living Principles, 2015).
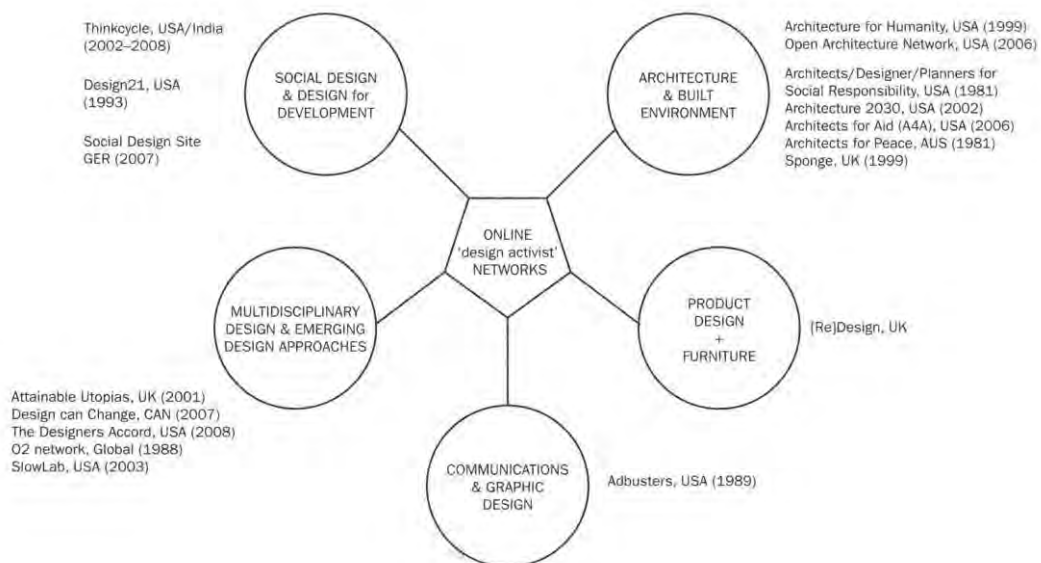
Figure 67. Sustainable by Communication Design (image source: Fuad-Luke, 2009).

For instance, in the following example, the influence strategy of 'Defaults' is applied on a website (UX design), and on a hotel-sign (Communication design); although the delivery medium differs, the persuasion principle remains the same (see also Chapter 4).

Figure 68. Two different delivery mediums employing the same behaviour-change strategy of 'Defaults' (Left image credit: ElectricPutty, 2013; right image credit: CoaST Ltd.).

3.3.1   The rationale for choosing words

This Section provides a well-argued rationale for using 'Communication Design' as the medium for influencing a change in the behaviour of tourists visiting Cornwall and, thus, furthering Sustainable Tourism.

First, as a sustainable designer, the author seeks contemporary, dematerializing solutions for addressing an issue; this means that he is exploring approaches that require the least materials as possible in order to deliver an anticipated result (Mont, 2002). During the project's literature review, the author came across a handful of case-studies from areas such as Behavioural Economics, Social Science, and Environmental Psychology, specifically related to influencing human behaviour within the context of the hospitality industry (see also Chapter 4). Discovering that changing just a few words on a sign is, in certain contexts, all it takes to significantly encourage consumers (tourists) to act in an environmentally-friendly way (e.g. reuse their towels) [45], was indeed very appealing as a design response for a design researcher who seeks to create sustainable-behaviour-interventions that require the minimum of materials.

Therefore, it was acknowledged that carefully crafted messages (communication design) have the potential to be a small, dematerialising, cost-effective strategy for the Cornish tourism industry to achieve significant change in touristic behaviour and thus effectively

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[45] Referring to Goldstein et al (2008), and Baca-Motes et al (2012).

reduce its operating costs, and save energy and water resources – and that was something worth exploring and moving forward.

Moreover, having design concepts that require the minimum of materials, makes the testing and evaluation of them more accessible and manageable in the research process, compared to other design approaches (such as Volkswagen's "Musical Stairs") because dematerialized concepts can be easier to distribute throughout the network of this project's business partner (CoaST Ltd.; over 3100 members, from businesses to the local authority, and to community grass roots organisations).

Second, CoaST Ltd., already researches carefully crafted communication approaches that increase cultural shift and pro-environmental behaviour from tourists and tourism operators (CoaST, 2011c), and their expertise has directly informed my research. This means that, during the process of new discoveries on the subject, the author was able to discuss research outcomes (and share any doubts about the research process) and receive comments and feedback from an experienced mentor.
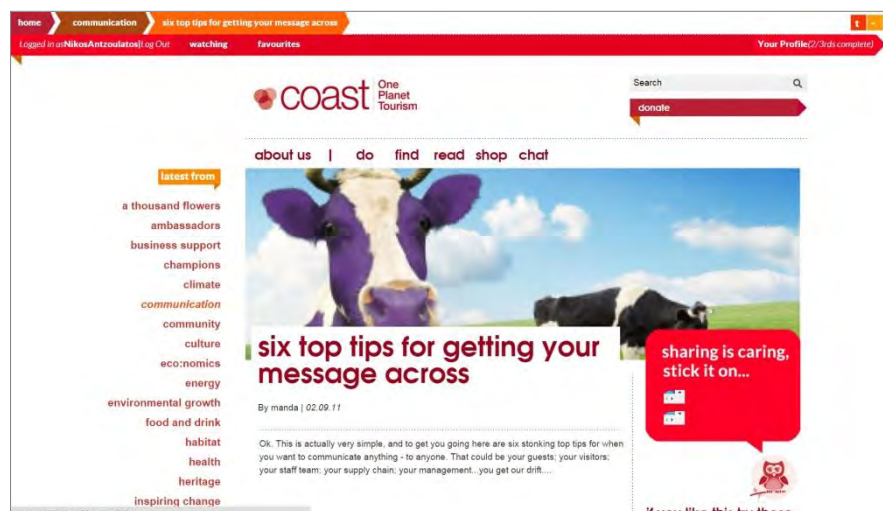
Figure 69. Screenshot from the communication section of CoaST's One Planet Tourism official website, advising tourism-businesses on effective communication.
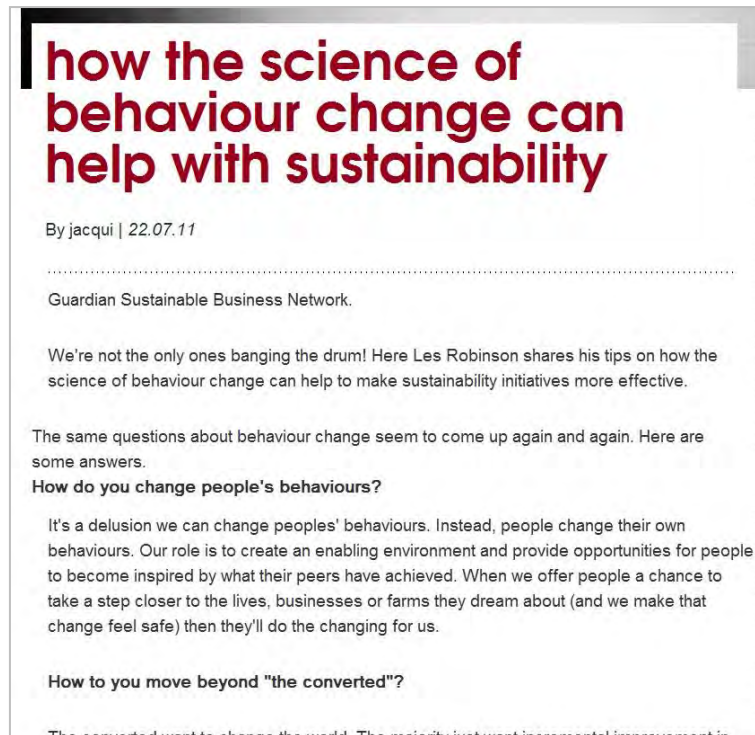
Figure 70. Behavioural Science and Sustainability: Screenshot from a section of CoaST's

One Planet Tourism official website.

Third, the mature advertising industry, "one of the most specialised areas of persuasive communications" (Heskett, 2002, p.97), has long been exploring the power of words in influencing human behaviour towards intended patterns. This research project builds upon their science-based data. Because even though their well-established communication techniques can be used in a broad range of commercial enterprises to promote consumer adverts to targeted groups at an invasive level, at the same time, those communication techniques can also be used in complete juxtaposition to socially motivated and benign movements for the benefit of humanity, such as engaging tourists in more environmentally and socially friendly practices.

To summarize, focusing on the power of communication design to change human behaviour towards pro-environmental patterns, was a conscious decision, based on the following factors:

- The project's business partner (CoaST) already works with this approach.
- The approach builds upon the mature industry of advertising
- It can be a low-cost approach to behaviour-change
- Dematerializing: a design solution that uses as few materials as possible
- It is simple to deploy, assess and iteratively adapt for research purposes and businesses engaged in the process.

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3.3.2   The Power of Words: HOW we say something, matters

"The tongue has no bones, yet it breaks bones."
– Greek proverb

The proverb above conveys in a folksy manner the most vital argument of experts in climate-change communications: "the words we use affect the way we feel" (Marshall, 2014, p.109); therefore, "the way in which a message is framed affects the amount of persuasion it elicits." (Smith et al, 1996).

Indeed, as Futerra Sustainability Communications (Futerra, 2007, p.1) elucidate: "Words matter. They matter a great deal. Words bring ideas alive, make new concepts familiar, and can change the way we see the world". According to Ambrose et al (2010, p.110), "[m]essages are communicated not just through simple semantics. Our choice of words and language and the tone with which we deliver them all offer deeper meaning to what we are saying"; something that explains the existence of "a whole industry dedicated to perfecting copy." (Futerra, 2007, p.1).

Since "'How' we communicate alters our response more than 'what' we communicate." (Payne, 2012, preface), then different ways of framing the same request have a different effect on people's response rate. For example, encouraging university students to drink responsibly by employing descriptive social norms proved more effective than using guilt-tactics (Nudge, 2010); in other words, the aim is similar in both cases but the approaches supporting the aim are quite different (Kaptein et al, 2012, p.4).

Figure 71. Two posters, two different ways of saying the same thing (image source: Nudge, 2010).

Likewise, a video from an online-content specialists agency named PurpleFeather (2012) also demonstrates the influential importance of "[getting] at the heart of asking a question using the right words." (Payne, 2012, p.12).

Figure 72. Screenshots from PurpleFeather's (2012) video on the power of words.

Moreover, an interesting experiment by blogger Dustin Curtis, in the context of User-Interface (UI, website) design, demonstrates how language permutations can result in different clickthrough rates (an optimisation technique of the User-Experience (UX) design industry, known as: A/B testing). Below are Curtis's different requests inviting users to follow him on Twitter:

- Initial statement: "I'm on Twitter", resulted in a 4.7% clickthrough rate.
- Adding a command: "Follow me on Twitter", resulted in a 7.3% clickthrough rate.
- Adding a stronger, more personalised command: "You should follow me on Twitter", resulted in an approximately 10% clickthrough rate.
- Finally, adding the literal callout "here", the final statement became: "You should follow me on Twitter here".

Figure 73. Curtis's wording permutations increased website-user's clickthrough rate.

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Figure 74. A collection of text-based signs used by homeless people: Different ways of asking for economic help (image credit: Pentagram, 2009).

In all the above examples, "All that's changed is how the question is presented, which demonstrates an idea central to behavioural economics: the way a scenario is worded influences the decision of the respondent." (Anderson, 2011, p.114). Thus, the power of words is an inspiration for this research: Communication Design for furthering Sustainable Tourism in Cornwall; carefully researched wording and prototyping the appropriate tone of language that matches the subject matter in order to encourage tourists visiting Cornwall to make more environmentally and socially friendly choices.

3.3.3 The Denotative and Connotative Level of Words

Due to its complex intellectual nature, it took a significant amount of time to synthesise, analyse and make sense of literature related to changing human behaviour. In order for the design research to progress, a few basic questions needed to be answered: Why do small changes in the way a request is worded make a big difference in influencing people's behaviour? Why do some words have the power to affect change in human action? For example, why "'*We*' is the most important word in behaviour change" (CoaST, 2011)?

A systemic analysis from studies of various disciplines that involve understanding and influencing human behaviour, such as Behavioural Economics and Social Psychology, pointed to an enlightening answer: a sign becomes a carefully crafted message, and moves beyond being just a clever slogan and/or a polite request,[46] when it intentionally uses words that associate with specific (contextual) factors that influence human behaviour, "appealing to a limited set of deeply rooted human drives and needs" (Cialdini, 2001; 2007).

According to Fogg (2003), words, apart from their meaning in the dictionary (denotation), also stimulate emotional responses (connotation). As Clarke (2007, p.31) explains:

> "In order to distinguish one object from another, language enables us to name things. At this most basic level it enables us to designate an object (chair) or category of objects (furniture) at the least disputable level of understanding. This is the denotatory level of meaning. [...] The significance we attach to an object, or the name we give it, is restricted only by our own limitations of experience or knowledge. We are the interpreters."

On that note, Futerra, a famous sustainability-communications agency, argues that in order to create persuasive sustainability terminology, apart from the denotative meaning, experts should examine the connotative associations of words (Futerra, 2007, p.1), because as Marshall (2014, p.109) argues, "[e]very time a word is used, it brings into play a cluster of interlocking frames and associations."[47] For example, Futerra's (2007) study examined selected terminology related to sustainability and climate change; they found out that people may understand the definition of some words (denotation), but may not like them due to, for example, negative emotional responses a word may evoke (connotation).[48]

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[46] More than a prompt: "A prompt is a visual or auditory aid which reminds us to carry out an activity that we might otherwise forget." (McKenzie-Mohr & Smith, 1999, p.61).

[47] Case-studies exist were a single word "triggered a cascade of negative thoughts" that influenced people's "entire decision-making." (Marshall, 2014, p.110)

[48] Here, it is interesting to note Marshall's (2014, p.112) explanation about the connotations triggered by climate-change wording: "It is unfortunate that the most common compounds of all, *high carbon* and *low carbon*, are used to differentiate lifestyles, economies, and technologies. 'High' is a universal frame for status and power. We say high-class, high-end, high

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Figure 75. The denotatory and connotative level of meaning of words.

Figure 76. A part from Futerra's study on climate-change terminology (Futerra, 2007).

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quality, high achievement. 'Low' is a universal frame for inferiority and social failure. No matter how much you try to bend it, 'high-carbon living' sounds intuitively like having champagne in a penthouse and 'low-carbon living' sounds like drinking cold tea in a dank basement."

3.3.4 Persuasion is to use the right tone of language: IDEO case study

"If sustainability is to become a persuasive vision,
it needs a persuasive language."
– Futerra, Words that Sell, 2007, p.1.

As discussed, "[t]he most important thing isn't what you say; it's how you say it." (Payne, 2012, p.18). When it comes to influencing people's decision-making and changing their behaviour, the way we make a behavioural request is a major determinant in the persuasive effectiveness of the request (Fogg, 2003). Ambrose et al (2010, p.110) argue that "[a] message can be expressed in many different ways or with a different tone of voice; for example, with authority, with contrition or with optimism. At times we like to feel that someone is in control but at other times we do not like to be told what to do. Finding the right voice is important in order to relate to the target group and not alienate them." Thus, the tone of a behavioural request (the way we ask the question) determines its persuasiveness.

IDEO is a globally recognised design firm that acknowledges the importance of choosing the right words and prototyping the right tone of voice when it comes to designing solutions for changing people's behaviour (IDEO, 2009; 2011). IDEO's senior communication-designer, Jennifer Maer, describes her involvement with "The National Campaign to Prevent Teen and Unplanned Pregnancy" in the United States, as a challenging project that "called for delicate and persuasive storytelling" (IDEO, 2011). As she explains, through 'design-thinking' and 'human-centred design' research (IDEO, 2015; 2008, p.151), IDEO managed to identify that the tone of language used in conventional unplanned pregnancy-prevention messages is "really medical [...] full of euphemisms [...] approaching the problem from a logical, scientific point of view"; something that "rarely work[s] to prevent unplanned pregnancies" because it does not match with the emotional side of the human sexual urge (IDEO, 2008, p.151).

Additionally, as Maer argues, "designing for behaviour change is all about connecting really intimately with real people" (IDEO, 2011). This idea is also endorsed by Kollmuss et al (2002) who argue that behaviour change interventions should not only further our intellectual understanding but also make a connection to our emotional involvement.[49] "For example, a simple SMS service that spoke in conversational language was much more effective than a message written in a clinical, authoritative tone" (IDEO, 2008, p.151; see Figure 77 below). "While in both cases the end is the same, the means supporting the request are different." (Kaptein et al, 2012, p.4).

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[49] According to Kollmuss et al (2002, p.254), emotional involvement is "one's emotional investment in the problem"; for example, "the ability to have an emotional reaction when confronted with environmental degradation."

Another of IDEO's communication-design solutions was a poster that honoured the 'irrational' and 'emotional' side of the subject matter and adopted an honest and humorous tone of language. The poster reads *"Missing: Freedom. Have you seen my Friday nights? Last seen before I got knocked up. Birth control or baby. Your choice."*, along with a link to a website with relevant information (IDEO, 2011).
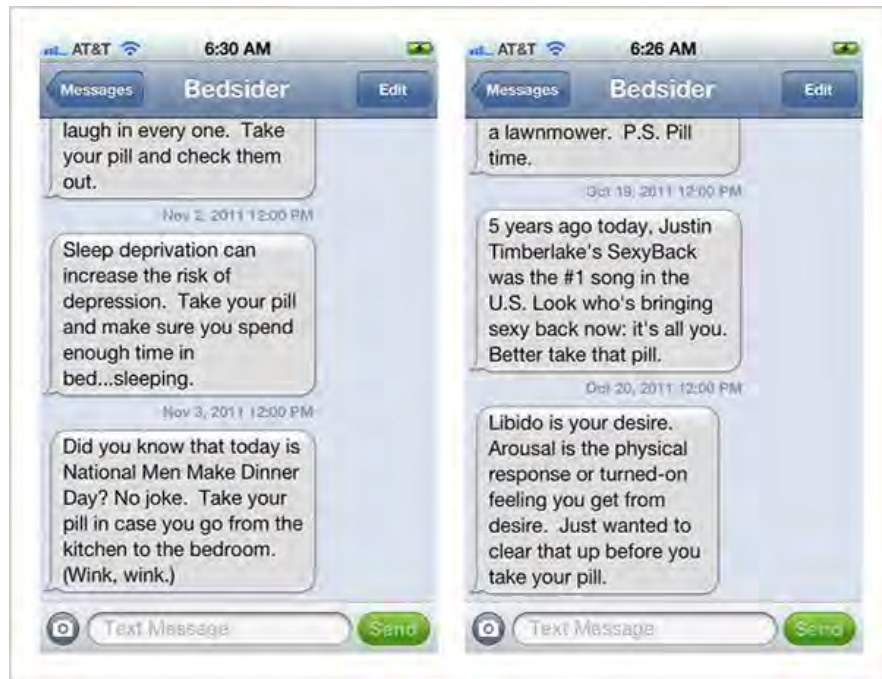
Figure 77. "Humorous daily reminders to take one's birth control pill are delivered via text-based messages" (image source: FastCompany, 2011).

Figure 78. Discouraging unplanned pregnancy: ineffective conventional behaviour-change approaches, based on 'human rationality (logic)' and 'factual information provision' (Image source: IDEO, 2011).

Figure 79. Discouraging unplanned pregnancy: contemporary approach honouring 'human irrationality' and 'emotion'; a good example on the importance of prototyping the right tone of language in order to change people's behaviour (image source: IDEO, 2011).

IDEO's case-study demonstrates that carefully crafted messages can increase the likelihood of people responding positively to their embedded behavioural request, and also illustrates the limitations of conventional approaches on behaviour-change solely based on the provision of rational, factual information on the subject matter (see also Chapter 4: 'Conventional (cognitive) approaches to behaviour-change: humans as rational actors').

Notably, the above observations from the literature review were supported by interviews and online survey feedback from Cornish Tourism stakeholders that requested a carefully-crafted tone of language in the text-based messages this research project was preparing for them (see also Chapter 6: 'Online Surveys').

3.3.5   Persuasive communication and Sustainable Tourism: Goldstein et al case study

Using text-based signs as a medium to influence human behaviour is not something new. A plethora of scientific examples can be found throughout relevant literature:

- Sussman and Gifford (2012, p.596) "demonstrated that a simple, well-designed sign can effectively encourage energy conservation."
- Dennis et al (1990. In: Wood and Newborough, 2003, p.3) demonstrated "a 60% reduction in unnecessary lighting use by putting signs near light switches."
- Duncan and Martin's (2002) case-study, using "interpretive" and "sanction" signs, encouraged environmentally-friendly behaviour from wilderness visitors.
- "Martin (1992) reduced pumice collection at Mount St. Helens National Volcanic Monument by 97% with a simple sanction sign." (Martin, 1992. In: Duncan and Martin, 2002, p.21).
- Andersen et al (1998) managed to successfully demonstrate an overall increase in stair usage by employing signage that promotes the benefits of using the stairs instead of the escalators, placing the sign at the point of decision-making – stairs or escalators.
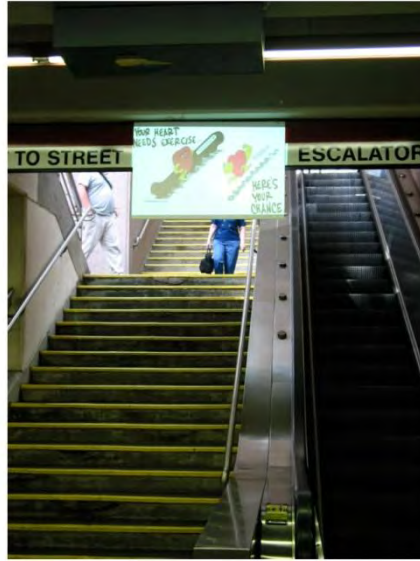
Figure 80. Stairs or escalator: using signs to influence human behaviour (image: Intille,2003).

Notably, Goldstein et al's (2008) case study is the most famous example within the context of Tourism that demonstrates how text-based communication design can influence tourists' behaviour and reduce the hospitality-industry's contribution to CO_2 emissions and, thus, climate change. Their study experimented with three different versions of wording directed to encourage hotel visitors to reuse their towels and sheets and not having them replaced the next day (see Figure 80); the outcome: "Compared to the first two messages, the social norms message [wording 3] increased towel reuse by 34%".
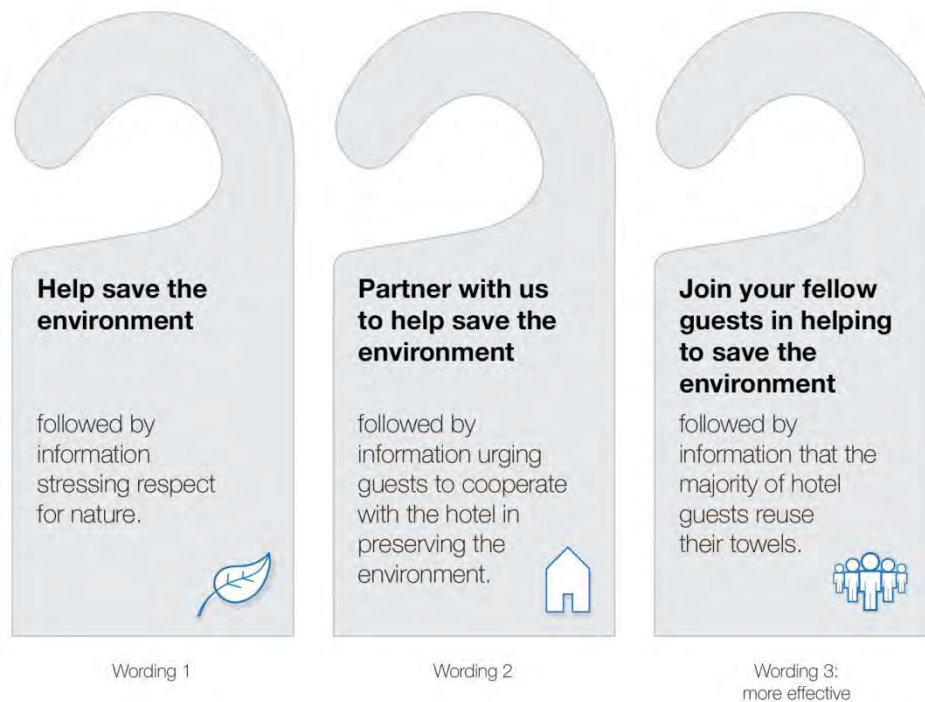
Figure 81. Three different versions of the wording of hotel-signs directed to influence
hotel visitors to reuse their towels during their stay (adapted from Goldstein et al, 2008, p.473).

In this study, Goldstein et al (2008) highlight the power of language on changing human-behaviour, and demonstrate that changing just a few words on a sign can be a quick, small and very economic approach that, if employed by the Tourism industry of Cornwall, can have the potential to influence sustainable touristic behaviour, promote environmental benefits and reduce the carbon footprint and operating costs of Cornish holiday accommodation-providers. Goldstein et al, argue that wording 3 was effective because it invokes the principle of consensus: "People follow the lead of similar others" (Cialdini, 2001), also known as social norms.[50]

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[50] According to Dolan et al (2012), social norms is a contextual factor that influences human behaviour.
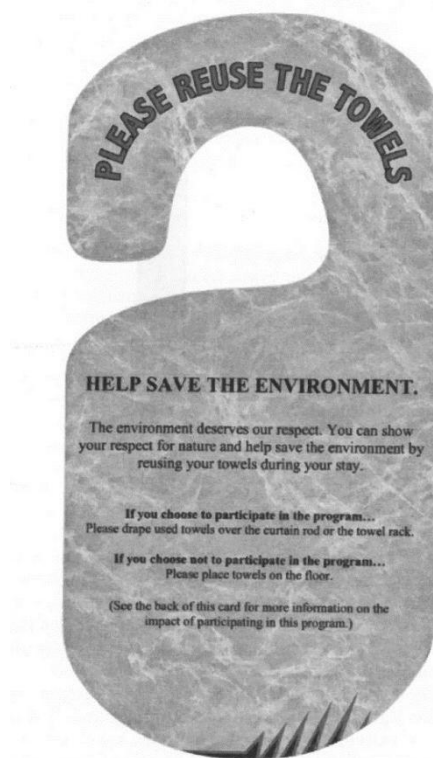
Figure 82. *"The environment deserves our respect. You can show your respect for nature and help save the environment by reusing your towels during your stay."* One of the experimental hotel-signs (wording 1) used in the study of Goldstein et al, 2008, p.474; image source: Goldstein et al, 2008).

Based on the above science-based evidence, text-based messages can serve as a simple and low-cost intervention that has great potential for influencing sustainable behaviour. The question that arises here is: which type of text-based communication is appropriate for the context of tourism? (see also Chapter 3: 'Messages appropriate for the context of Tourism').

Here, the reader is reminded that a focus has been established on the following approaches as ways to further touristic behaviour-change:

- The medium of Communication Design
- The use of language (words)
- Text-based messages (signs)

Taking the above into consideration, the author designed and conducted a second, larger online survey, entitled: 'Communicating and Influencing Sustainable Behaviour', in order to learn more about the relationship between sustainability messages (signs) and the Cornish tourism industry, and to effectively reflect on the needs of the tourism industry (private/public sector; see also research method: 'Online Survey B').

Generally speaking, primary data generation (online surveys, personal interviews with accommodation-providers and observation of their business context) revealed that Cornish tourism businesses use a conventional way of communicating sustainable behaviour to their visitors, that has been proven to be limited by academic studies. This insight raised the questions:

- Would Cornish tourism businesses want to improve their sustainability communications?

- How would they feel about using research-based signage?

The Online Survey directly informed this research and provided a solid basis and a set of established design criteria upon which the conceptual design engagement was then initiated (see also Chapter 5: 'Design Criteria'). It was also realised that an opportunity to promote new ideas in design existed here, because it is the industry's real-life barriers and needs that are translated into design criteria. More specifically, one of the main issues highlighted through in-depth analysis of the survey, was the need to challenge convention and create communications that avoid being preachy, finger-pointing, condescending, telling people what to do, but, on the contrary, a design solution that prototypes the appropriate tone of language and matches the subject matter.

Figure 83. "Taking the change out of behaviour change" (IDEO, 2011b).

The above observations were reinforced by various comments from Personal Interviews with Cornish Tourism businesses:

"I do not like 'Do not' signs [...] I try to limit the signage because I really do get fed up with people preaching me and telling me what I should and shouldn't do". (Personal Interview B)

"we will give advice on car-free days out for guests, so in our book we'll say 'You can ask for bus time-schedule' and information like that, but we are very much against being preachy about it – people are on holiday at the end of the day, they're not here for an education".
(Personal Interview E)

"we want people to feel relaxed, to feel at home, and we don't want to be directing people all the time, verbally or non-verbally. We always tell people 'this is your home for the next week, it's your room, your place to stay'. So, it's all about to make people relax and feel at ease".
(Personal Interview C)

"generally we don't like our place to look labelled. The whole idea is that it's a relaxing place without being instructional".
(Personal Interview D)

It is important to note here that the design criterion that the interview feedback points to, reveals a complex and multi-layered issue: How can we communicate a desired action to someone without eventually telling them what to do? As we discuss in the following section, "all communication is rhetorical; that is, it seeks persuasion of some message to some particular audience." (Ma, 2008, p.25); this means that by using a sign about sustainable behaviour (e.g., energy and/or water use) we cannot avoid, one way or another, telling people what to do/requesting an action/asking for change. Consequently, any initiative for encouraging a specific (sustainable) behaviour dictates an action; it tells people what to do, either explicitly or implicitly; especially if the medium for behaviour-change is text-based messaging, which is the case of this research project.

Therefore, since 'telling people what to do' (requesting an action) is unavoidable and ever-present in the field of human behaviour-change, the closest we can get to satisfying the above design criterion is to shift the focus to *the way* the request is framed: HOW to tell people what to do. Once again, we return to the importance of the way a requested action is framed.

Figure 84. Either implicitly or explicitly, any behaviour-change initiative tells people what to do

(photo by author).

The project's approach is a contemporary approach on communicating and influencing sustainable behaviour change that moves away from conventional approaches that solely operate under the assumption that humans are rational actors, changing people's behaviour by trying to correct them, and by pointing the finger at them, appealing solely to the rational part of their brain. On the contrary, this research draws upon contemporary disciplines, such as Behavioural Economics, and approaches humans as social animals (see also Chapter 4: 'Contemporary (contextual) approaches to behaviour-change: humans as social animals'), inviting, nudging them to act in the desired behaviour, utilising also the irrational, emotional part of their brain; applauding people without forcing the behaviour change upon them; making change but not feeling change. The advantage of design approaches such as the "Nudge" is that they can result in intended human behaviour without being explicit about the behavioural request, and/or the change that takes place; "taking the change out of behaviour change" (IDEO, 2011b).

3.4 Words, artefacts and personal meaning: what is reality?

"I know that you believe you understand what you think I said, but
I'm not sure you realise that what you heard is not what I meant."
– Robert McCloskey.

"We don't see things as they are; we see them as we are."
– Anais Nin.

In order to get a better understanding of human communication and our relationship with others and the world around us, it would be beneficial to examine the viewpoint of Charles Sanders Pierce (1894), an American philosopher, who argues that asking "What is a Sign? [...] is a most necessary question" because, as he explains, everything is some kind of a sign and, thus, everything is subject to an individual's interpretation. This argument is endorsed by Umberto Eco (1984), an Italian philosopher and semiotician, who explains that humans exist in a permanent state of message-receiving, constantly surrounded by tangible and intangible signposts pointing to the formation of personal meaning, thus shaping our behaviour.

Likewise, Clarke (2007, p.18), based on a Foucauldian philosophy, notes that "Signs, whether verbal or visual, require interpretation if they are to convey any meaning at all, but their unavoidable ambiguities permit multiple readings." On the same note, semiotician Hall (2007, p.61) asks: "Do you see the colour red in the same way others see it?", trying to make a case about subjective and objective "matters of interpretation" (p.113). Hall uses the example illustrated in Figure 85 and explains that:

> "when it comes to the interpretation of signs our understanding is mediated through the various concepts and conceptions we have of different kinds of subject matter; by the various connotations and denotations that objects, images and texts can have; [...] and by the ways that we have devised for understanding (and misunderstanding) that which we think we know." (p.114).

Additional examples of multiple readings of signs could be a 'car', something that is not only a functional object but also, sadly, a symbol used to communicate to the world around us our perceived self-importance (Csikszentmihalyi, 1991); or the sign illustrated in Figure 86 that reads: 'Be aware of the dog', but really wants to say: 'Thief, get away from my house'.

Figure 85. An example of a sign that intentionally contains a collateral message related to consumerism (image source: Hall, 2007, p.24).

Figure 86. Multiple readings of the words on a sign (photo by author).

Moreover, in regards to language as a medium for communication and persuasion, Adler et al (1996) point out that words can be seen as "symbols, which each of us interpret, often in very different ways." This statement is highlighted also by John Austin (1962), a British philosopher of language, in his series of lectures at Harvard University, entitled: "How to do Things with Words" (Austin, 1962, p.1-5).

More specifically, one of Austin's notable ideas is that an utterance, either in the form of:

- a factual statement (describing "some state of affairs")
- "questions and exclamations"
- "commands or wishes or concessions",

is not solely descriptive but may also serve as an implicit, explicit, inexplicit or primitive performative. This means that a collateral message can be found within an original message, either intentionally positioned by the message-sender, or inadvertently perceived as such by the message-receiver; for example, "curious words like 'good' or 'all', suspect auxiliaries like 'ought' or 'can'" (Austin, 1962, p.5). In the words of Austin (1962, p.2-3):

> "... many utterances which look like statements are either not intended at all, or only intended in part, to record or impart straightforward information about the facts: for example, 'ethical propositions' are perhaps intended, solely or partly, to evince emotion or to prescribe conduct or to influence it in special ways."

Thus, it could be suggested, as Ma (2008, p.25) describes, that "all communication is rhetorical; that is, it seeks persuasion of some message to some particular audience." Indeed, Paul Watzlawick's (1967, p.30) First Axiom of Communication is that "one cannot not communicate". This means that there is no neutral communication; we may not always do it intentionally but we always communicate something to someone. For example, for Eco (1984, p.21), even silence is a form of communication: "a mute but eloquent language". Or, as Tromp (2011) explains, a disposable drinking cup contains in its material the inscripted message 'throw me away after use'.[51]

Based on the findings from the literature review, and since "there is a considerable area of overlap between communications and objects" (Heskett, 2002, p.98), this design research considers the term 'Communication' not referring solely to "two-dimensional material" (Heskett, 2002, p.82) but also to tangible objects and their "scripting"[52] properties (Jelsma, 1997. In: Zachrisson and Boks, 2010, p.4). As a result, this research project views:

- Communication through tangible, physical form as 'Product design' [53]
- Communication through intangible words/images as 'Communication design'

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[51] "sometimes things can tell stories more eloquently than people" (Busch, 2005, preface).

[52] "The idea behind the script is "a kind of user manual inscribed into an artefact" where the design of the product guides the way it is being used" (Jelsma, 1997. In: Zachrisson and Boks, 2010, p.4).

[53] An object can become "a persuasive argument" in itself (Buchanan, 1985). Additionally, "the form of an object is a function of values and priorities and is, therefore, a physical expression of meanings." (Walker, 2014, p.106).

Therefore, by establishing an interrelation between Language and Form, a space is created within this design research where persuasion by language and words (Communication design) can be informed by theoretical insights from the area of persuasion by physical form (Product design), and vice versa.
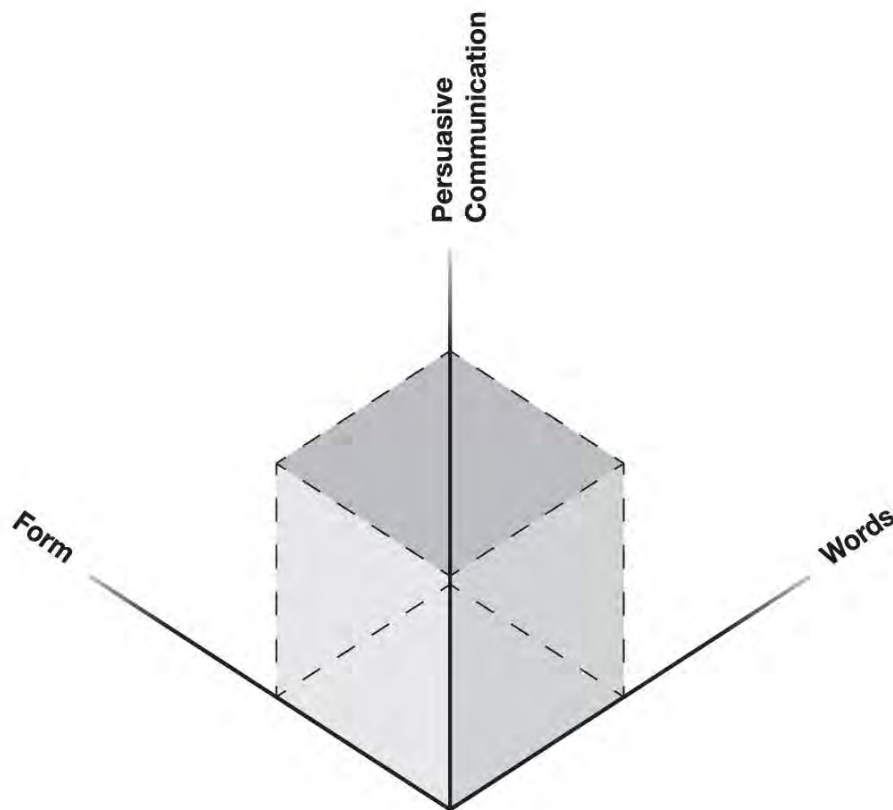
Figure 87. The interrelation of Communication through Form and Communication through Words.

Essentially, all authors mentioned above teach us that our understanding of the world around us is subject to personal interpretation and that initial intentions can be lost in subsequent translation. This is particularly relevant in a design context because similarly there is an occasional gap identified between designers' intentions and the user's personal interpretation[54] (Lockton et al, 2010; Lilley, 2007, p.30; Deterding, 2009); "designers' intended use (or usability) is not always translated into user behaviour" (Lockton et al, 2010). That could explain why, sometimes, design initiatives "for the sake of environmental protection, may be easily misunderstood as a reduction of comfort (Shove, 2002) for which [people] pay." (Budeanu, 2007, p.503); a notion identified also through interview feedback (see also Chapter 3: "'Have a nice time": questioning tourists' perceptions and expectations of a "good" holiday

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[54] Jelsma et al (2002. In: Lilley, 2007, p.30) refer to this phenomenon as "anti-scripts": "the consumer actively finds ways to disrupt or circumvent the indented use patterns prescribed by the designer".

experience', and 'Appendix 5'). As the owner of a Cornish guest house argues (Personal Interview C):

> "... any message you make you've got to make it as least inflammatory and argumentative as you can. Some people would pick holes and pick arguments about anything but you need to reduce the likelihood of that. If you want people to be on board with it."

An example that illustrates the gap between designers' intentions and people's interpretation would be Figure 88; as Casper Boks (Technoport, 2012) explains, people interpreted the object as a waste bin and thus interacted with it accordingly by placing their waste in it (and by doing so, probably complained about the waste bin's awkwardly narrow holes). What people did not understand is that, actually, this object is a ventilation shaft for an underground parking garage. This is an example of mis-communication through form that inadvertently invites undesired (unsustainable) behaviour.[55]

Figure 88. Communication through form (scripting): What does this design communicate to people? What kind of behaviour does it encourage? (image source: Technoport, 2012; image credit: Dan Lockton)

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[55] "[E]very day we are faced with objects that have tacit instructions for their use, images that have masked codes for their interpretation and texts that obey the, often hidden, regulations that are set by the institution of language. In failing to notice these rules we also fail to see the opportunities for questioning them and thereby creating new codes and forms of meaning." (Hall, 2007, p.126)

Persuasive Design strategies focus on "designing artefacts to steer users behaviour in an intended direction" (Deterding, 2012, p.1). Lockton et al (2008, p.274) call the inquiry of "design intended to result in certain user behaviour" as "Design with Intent",[56] arguing that when it comes to developing our material culture, design can have a role in minimizing the gap between how a design outcome is designed and how it is actually perceived by people. For this design research, based on the definitions of Deterding (2012) and Lockton et al (2008), the term "Persuasive Communication design" is described as the careful framing of a (text-based) message in order to influence a message-receiver's behaviour towards an intended action. The mature industry of advertising knows well that everything in our everyday lives can become a medium for persuasion (Armstrong, 2010): the 'person' sitting next to us at a cafe, a 'word' on the wall, or the speed-bump on a driveway, everything around us can be used to communicate something to us and shape our everyday behaviour (Deterding, 2009). Our role as designers for sustainable behaviour is to make that communication with intent in mind; understand how to communicate a message that shapes people's behaviour towards intentional patterns (Lockton, 2013).

Last, the observations made in this Section point to a limitation of this practice-based research. More specifically, due to the human condition of 'personal interpretation', the medium (text-based messages; signs) for furthering Sustainable Tourism, as carefully crafted as it may be, cannot guarantee a change in tourists' behaviour, but can only hope to be "one piece in the puzzle" (Sussman et al, 2012, p.596) of the solution to climate change. Arguably, this once again proves that the question of '*how to change tourists' behaviour towards sustainable tourism practices*' does not come with a simple answer. On the contrary, sustainable (touristic) behaviour requires a multi-disciplinary effort that combines a variety of "complex interventions that are needed to shift diverse citizens in diverse parts of the world away from a CO_2 intensive society or adapt to the changes that might accompany the perpetuation of CO_2 intensive industries, infrastructures, and lifestyles." (Selinger and Powys White, 2012, p.29, In: Hall, 2014, p.290).

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[56] This research project directly builds upon the work of Dan Lockton's (2013) "Design with Intent".

3.5 Theoretical Approaches to Communicating Sustainable Behaviour

In the preceding pages it has been established that this project's medium for influencing touristic behaviour-change and furthering Sustainable Tourism in Cornwall is:

- Communication Design
- Language (words)
- Text-based messages (signs)

Therefore, based on in-depth analysis of primary and secondary data, this section brings together in a comprehensive manner a set of theoretical principles, essential for persuasive Communication Design, along with illustrated examples. These principles and suggestions are added to the novel table called 'Elements of Persuasion'; a list of factors that can add to the effectiveness of behaviour change initiatives (a direct result of this aspect of the research project; see also Chapter 5).

3.5.1 Capturing Attention (Salience)

"All persuasion begins with capturing attention. Without attention,
persuasion is impossible."
– McKenzie-Mohr et al, 1999, Fostering Sustainable Behaviour, p.84.

For McKenzie-Mohr et al (1999, p.84), capturing people's attention is the "most basic requirement" of persuasive communication, supported by Sussman et al (2012, p.600) who argue that "prompts can only have an effect on viewers if they are noticed". Before we proceed, it would be appropriate to clarify that even though colours can without a doubt capture people's attention, this project is not a study of colours but a study of language and words. Therefore, this Section explores the way words can be used to capture people's attention, and influence their behaviour.

In his recent book, Marshall (2014, p.80) talks about human "processes of attention", arguing that emotionally-charged communications can be a way to capture people's attention. On that note, McKenzie-Mohr et al (1999, p.84) explain that "[o]ne of the most effective ways to ensure attention is to present information that is vivid, concrete and personalised." Notably, for this research project, presenting vivid information does not necessarily mean to present information in a "bright-coloured" way, but mostly in terms of a "stimulating", "interesting" way.

Figure 89. A behaviour-change intervention that aims at capturing Londoners' attention (photo by author).

In McKenzie-Mohr et al's (1999, p.86) words: "Vivid information increases the likelihood that a message will be attended to initially, a process called encoding, as well as recalled later. That is, information that is vivid is likely to stand out against all the other information that is competing for our attention. Furthermore, because it is vivid, we are more likely to remember the information at a later time. This last point is critical, since if the information is remembered only fleetingly, it is not likely to have any long-lasting impact upon our attitudes or behaviour."

For example, the messages in Figure 90 aim to capture people's attention by using a stimulating, unusual format of words. "The placing of words in a new or novel order may sometimes have the effect of shocking or surprising us." (Hall, 2007, p.104). As Hall (2007, p.60) explains:

"The oredr of the ltteers deosn't mttaer bcuseae we do not hvae to raed ervey lteter bferoe we can raed the wlohe wrod. The mian tihng is taht the frist and lsat ltteer are in the rghit pclae. The oethr ltteers can be in a toatl mdudle and you can sitll raed the snetnece wouthit a porbelm."

Figure 90. Capturing attention by using a stimulating, unusual format of words

(all photos by author except bottom-right photo by Dr. Yorick Benjamin).

Similarly, the message below (in the medium of a printed poster) aims at capturing people's attention by employing a provoking tone of language in the main headline.

Figure 91. Capturing attention through using provoking words (photo by author).

Inevitably, communicating in vivid language is often inspired by the art of 'Storytelling'. For example, when storytelling is used as a medium to influence sustainable behaviour, Gonzales et al (1988. In: James, 2010, p.15) advise:

> "Rather than talking about the heat which could escape under doors, [utility suppliers] explained that the cracks would add up to a hole the size of a football in a living room wall. People who heard the vivid explanation were much more likely to buy weatherstripping for their house."

Another example is Lockton et al's (2014) design-research using energy-related storytelling to reveal insights into the relationship between people and their everyday carbon-intensive touchpoints. More specifically, comment labels and arrow-shaped notes were used as "language tools" that enabled people to "tell stories about how appliances were used, to raise issues around perceived waste, to suggest improvements and to ask questions about the relative CO_2 impact of different systems." (Lockton et al, 2014).

This method "led to exploring behavioural heuristics around heating and cooling" as well as "creating better models of human behaviour to reflect better the diversity and complexity of people's everyday lives in [...] particular settings" (Lockton et al, 2014).

Figure 1: Arrow comment labels at Department of Energy & Climate Change, London. The comment on the right is self-explanatory, while the left-hand one refers to electric 'Zip' hot water taps, and how they "always break", meaning staff bring in electric kettles instead.

Figure 2: Arrows sent to householders with statements regarding energy, cosiness, heat and hot water (English translations shown).

Figure 3: On the computer, the label reads "to keep in touch with others gives me warmth". With the candle, the householder recognises that it does not 'use' energy, but it still gives her warmth. On the radiator, the householder wonders how much energy it uses.

Figure 92. Signs as a medium for sustainability storytelling (image: Lockton et al, 2014).

Here, it would be beneficial to discuss two notions related to human cognitive processes of attention, namely:

- "the finite pool of worry" (Linville and Fischer. In: Marshall, 2014, p.78)
- "schemata of interpretation" (also known as "frames") (Goffman. In: Marshall, 2014, p.78)

Western societies are increasingly becoming "information-supersaturated" cultures (Marshall, 2014, p.80) which are constantly distracted by, what Manzini calls, "semiotic pollution" (Manzini ,1995. In: Ma, 2008, p.14); "signs, codes, language, assumed meaning and attempted communication", are all increasingly surrounding us and demand our attention (Fry, 1999. In: Ma, 2008, p.14).[57] But as Lewis (2004. In: Payne, 2012, p.104) argues, "trying to process too much information is a source of stress and can lead to mistakes." Thus, as Marshall (2014, p.80) explains, in order to "cope with the information-supersaturated modern urban environment" humans have developed "cognitive processes by which we select what we wish to pay attention to, and what we choose to ignore". Linville and Fischer call it "the finite pool of worry"; a metaphor that, as van der Linden (2014, p.256) explains, "states that people can only worry about a limited number of problems at any given time." [58]

But how do humans select what to ignore and what to attend to? "According to the Canadian sociologist Erving Goffman, we manage our attention through 'schemata of interpretation' [also known as] frames. Goffman explained that frames are constructed of our values, our life experience, and the social cues of the people around us. We decide what information we wish to pay attention to – placing what is relevant, important, familiar, or rewarding to know inside the frame." (Marshall, 2014, p.80).

Finally, since it is established that emotionally-charged language can make a message more persuasive and increase the likelihood of people responding to the behavioural request, then, based on Machiavelli's (1531) argument: "men are driven by two principal impulses, either by love or by fear", the two sections below discuss two basic ways to emotionally charge a message (and, thus, capture people's attention), namely Scare Tactics, and Fun Tactics, as identified in the literature review.

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[57] According to Marshall (2014, p.78), "the modern media is always trying to get our attention by creating new emotionally charged issues to worry about."

[58] For example, as van der Linden (2014, p.256) describe, "increased concern for one risk (e.g. economic crisis) might decrease concern for other risks such as climate change (Hansen et al., 2004)."
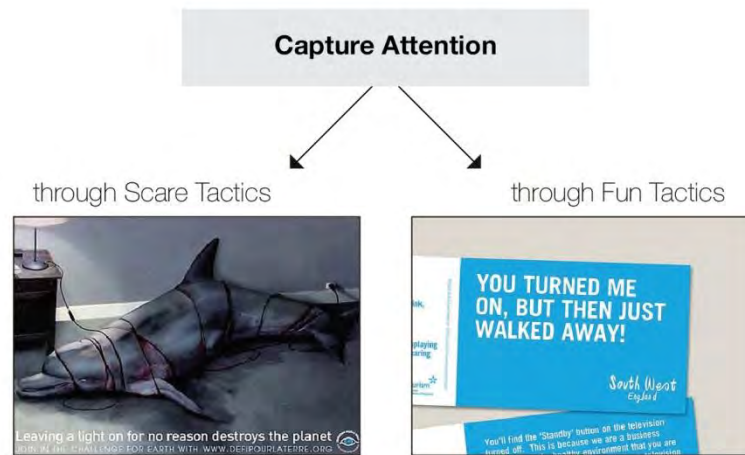
Figure 93. Capturing attention through two different ways: A fear-inducing approach (left) that reads *"Leaving a light on for no reason destroys the planet"*, and a humour-inducing approach (right) that reads *"You turned me on, but then just walked away!"* (images credit: Fondation Nicolas Hulot, 2015 (left); LEAP design agency (right)).

3.5.2   Scare Tactics

"Even a saint needs to be threatened."
– Greek proverb.

Fear appeals have notoriously been used by mankind as "a method of communication that attempts to influence attitudes and behaviours through the threat of some danger" (Tanner et al, 1989. In: van der Linden, 2014, p.253). In modern years, "fear messaging [...] has gained popularity in climate change communication" (van der Linden, 2014, p.253-256), and is generally regarded as "a necessary part of directing people's attention to crises." (McKenzie-Mohr and Smith, 1999, p.91-92). The underlying idea is that "feelings of fear and worry over consequences should lead people to prevent and reduce environmental damage." (van der Linden, 2014, p.252).

So, how do scare tactics work? As the figure below illustrates, by stressing "the punishing consequences of failing to follow the communicator's recommendations", people become aware of their vulnerability to the risk, and that produces the amount of anxiety and concern necessary to motivate people to act against the threat (Fleming et al, 1993, p.227).

Figure 94. The way scare tactics work (adapted from Fleming et al, 1993, p.227).

Here, a question that reasonably arises is: "Does fear persuade or does it paralyse?" (Goldstein et al, 2008b, p.35). Firstly, research confirms that scare tactics have the potential to initiate behaviour-change (Talking Climate, 2011c; IDEO, 2011b). According to Marshall (2014, p.139), "The problem [...] is that when people feel threatened and isolated, they can adopt a range of strategies to diminish their sense of internal fear: denial, uncertainty, playing down the threat, fatalism, and anger toward the communicator. Psychologists call these responses maladaptations, in that they are responses to do nothing to reduce the actual level of risk." [59] Notably, "a lot of attempts at promoting sustainable behaviour fail because they simply make people feel guilty and don't inspire action." (Corner, 2012, p.45) or even "might have the opposite effect, cementing [people] into inaction." (Goldstein et al, 2008b, p.36).

Interestingly, "the relation between fear and attitude change is curvilinear (U shaped)." (van der Linden, 2014, p.253), and essentially there are three levels of scare tactics, related to "the receiver's final level of anxiety": low, moderate, and high fear appeals (Fleming et al, 1993, p.227). Thus, messages with moderate fear appeals (producing moderate anxiety levels) are more persuasive than messages with either high or low fear appeals (see Figure 95 below).

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[59] According to Corner (2012, p.48), "fear is likely to trigger barriers to engagement with climate change, such as denial." To avoid this people need to feel they are in control (James, 2010).

Low anxiety levels are not effective "simply because receivers are not given motivation to change" (p.228), whereas high anxiety levels can "cause defensive-avoidance of the entire topic, finally resulting in total denial." (p.229).
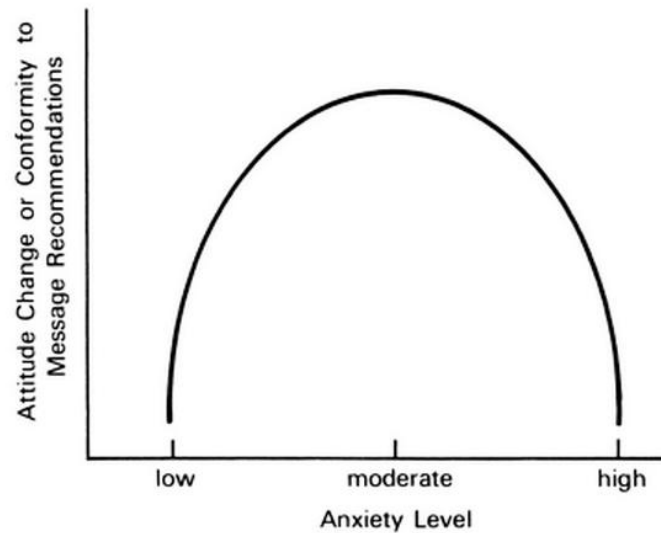
Figure 95. Reverse-U shaped relationship of attitude and fear (image: Fleming et al, 1993).
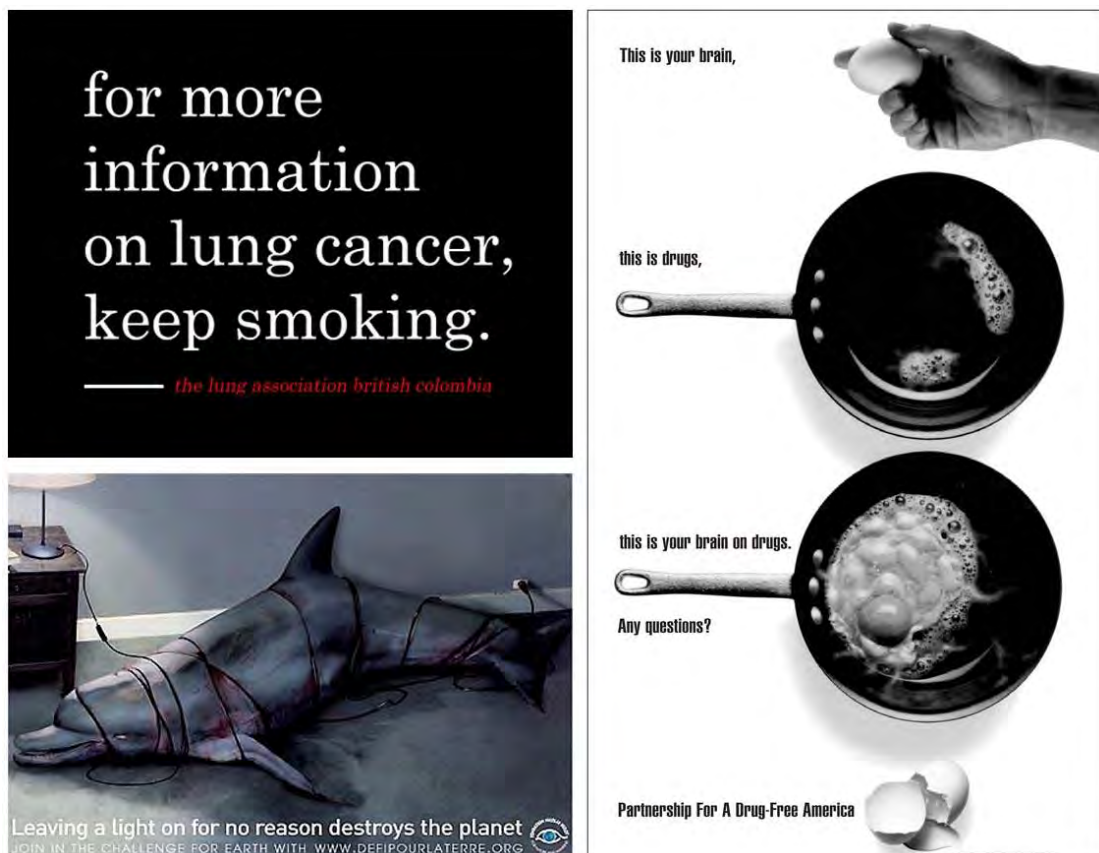
Figure 96. Examples of different levels of Scare Tactics.

Figure 97. These fear-arousing messages from Fondation Nicolas Hulot (2015) read (top to down):

"Leaving a light on for no reason destroys the planet."

"Running a half-empty machine destroys the planet."

"Having a bath instead of a shower destroys the planet."

Figure 98. Fear-arousing messages.
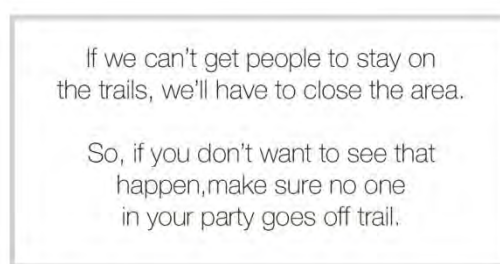
Figure 99. Scare tactics for sustainability (adapted from Winter et al, 2007, p.40).

Based on the above insights from literature, one can understand that the effectiveness of scare tactics can be "a tricky issue" (Fleming et al, 1993, p.228), which means that sustainability communicators should use this technique with delicacy and caution. As it is suggested, scare tactics "need to be combined with clear suggestions regarding what people can do to reduce the threat." (McKenzie-Mohr et al, 1999, p.91-92). In other words, communication designers should "use moderate levels of fear [as well as] emphasize that behaviour change will be effective" (Winter et al, 2007, p.40), in order to avoid the possibility of inadvertently having an opposite effect. This point is endorsed by Das et al (2003. In: van der Linden, 2014, p.253) who argue that "a message is more persuasive when negative emotions about one's vulnerability are coupled with positive thoughts about potential solutions".

3.5.3 The Invisible Threat of Climate Change

One factor that makes scare tactics an effective behaviour-change strategy is when the threat is perceived as direct and personal to the individual (Corner, 2012, p.45; see also Figure 99 below). Unfortunately, "[f]or the majority of people, their understanding of environmental issues tends to be limited to abstract or vague concepts." (Hall, 2014, p.279). "For people who live in developed countries, climate change is mostly an 'invisible' threat, something that happens not here and not now." (Corner, 2012, p.47), "and has low salience as a risk issue because it cannot be directly experienced" (Whitmarsh et al., 2011, p.57, In: Hall, 2014, p.279). This means that "[f]or most people in wealthy countries like the UK, climate change is perceived as neither a direct nor a personal threat and so shocking people into doing their recycling is not necessarily the right idea." (Corner, 2012, p.45).

Therefore, it could be argued that "although 'experience' may indeed raise levels of concern to what is considered a more appropriate level of personal 'worry', direct experience with the effects of climate change is generally lacking." (van der Linden, 2014, p.253)
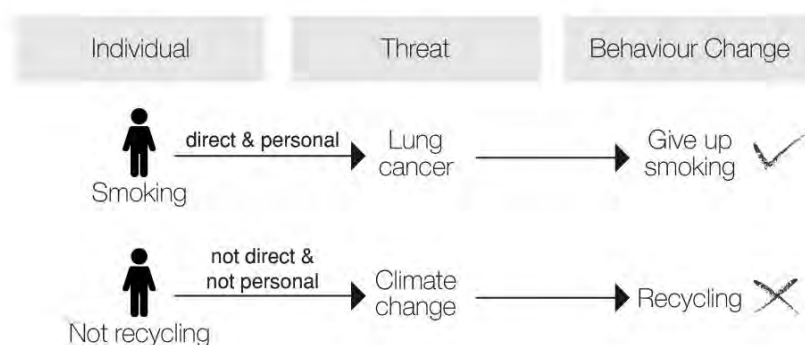
Figure 100. The effectiveness of scare tactics is based on an individual's perception of the threat imposed (adapted from Corner, 2012, p.45).
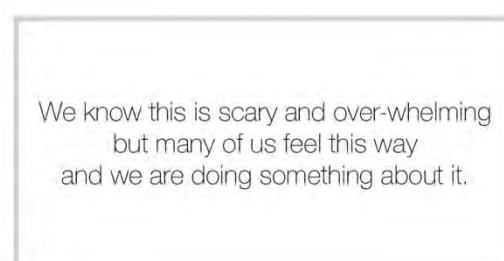
Figure 101. The right kind of scare-tactics message (adapted from Talking Climate, 2011c).

3.5.4 Fun Tactics

According to Hutchinson (2006, p.100), "As an influence weapon, humour is far from trivial. The origins of laughter and humour are rooted in complex social interactions, and can have significant influence." Additionally, Martin (2010, p.136) argues that "The wide variation in research findings suggests that the role of humour in persuasion is more complex, with certain types of humour contributing to persuasiveness in some circumstances but not in others [, and that] simply making a message humorous does not necessarily make it more persuasive." This argument is supported by Fleming et al (1993, p.231) who describe that "the effects of humour on persuasion are generally unpredictable."

Figure 102. A behavioural request employing a humorous tone of language (photo by author).

Nonetheless, humour "may help through attracting attention, enhancing source credibility, creating a positive mood, acting as a reinforce, and reducing the effect of counter-argument action by distracting the receiver." (Sternthal et al, 1973. In: Fleming et al, 1993, p.231).

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Figure 103. An example of "a strong graphic vocabulary" and "a deep sense of irony"

(image source: Ambrose et al, 2010, p.150; image credit: Futro).

Figure 104. Humour as a medium for capturing attention: LEAP design agency uses a humorous tone of language to frame their sustainability communication approach in regards to tourists' energy-usage within the context of Cornish accommodation-provision (image credit: LEAP design agency).

Figure 105. Humour as a medium for capturing attention: In this example, Jennifer Maer uses humour to frame IDEO's "Campaign to Prevent teen and Unplanned Pregnancy" in the United States (IDEO, 2011). (image source: Jennifer Maer (IDEO, 2011)).

This research project builds upon the above insights identified from the literature review in order to create an informed design response that helps the Tourism industry not to be intimidated by communication stereotypes, such as 'no one takes a comedian seriously'. Therefore, the project's design response aims to help the industry understand that humour may enhance persuasion and that a joke is welcome in their communications with tourists visiting Cornwall.

3.5.5 Personalisation

"... and we only write by the moon, every word handwritten"
– The Gaslight Anthem, 'Handwritten'.

Garner (2005) examined the effects of personalised communication in relation to the message-receiver's response rate, and concluded that a handwritten request can significantly increase recipients' response rate. As Goldstein et al (2008b, p.44) explain, Garner's study "provides a valuable insight into human behaviour: that the more personalised you make a request, the more likely you'll be to get someone to agree to it." This idea is endorsed by Menon (2006, p.11) who argues that a message with an "indirect voice keeps things passive and impersonal and thus relatively easy to ignore" but a handwritten request makes the communication more personalised; a relatively small nudge but with considerable potential in increasing people's response rate (Garner, 2005).

This idea is endorsed by Futerra (2006), a sustainability communications agency, which argues: "Make your messages as personalized as possible. Create climate messages about 'my

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region, my town, my street, my house, me'." For example, as Figure 106 illustrates, a hotel uses a handwritten post-it note to ask their guests to refrain from smoking inside their rooms, making the behavioural request more personalised (Daniel Pink, 2014b).
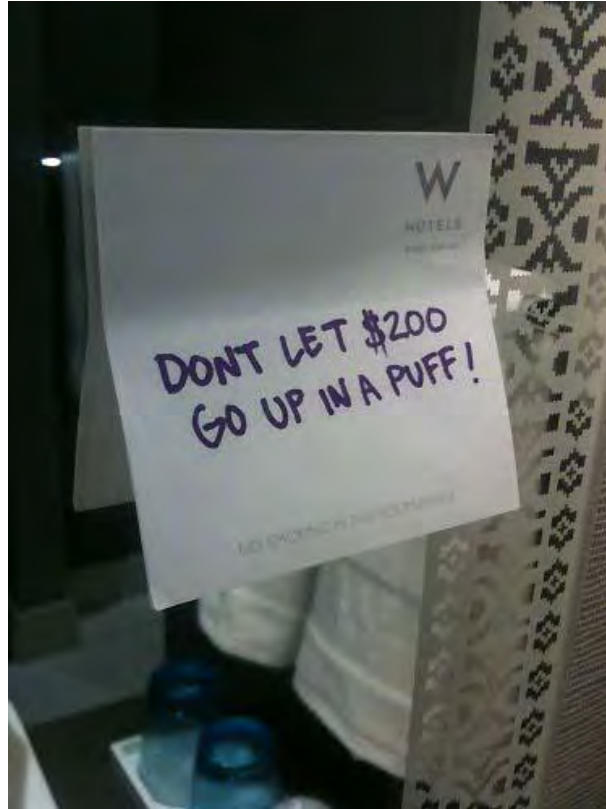
Figure 106. Hotels and personalised communication (image source: Daniel Pink, 2014b).

In another example, as Payne (2012, p.93) describes, "UK village shopkeeper [...] has all but stopped children littering in her village by marking sweet wrappers with the names of those who buy them". As Lockton et al (2010) explain, handwriting customers' names on the products they purchased discouraged undesired littering behaviour, because "taking ownership" of the product increased customers perception of personal responsibility.

Figure 107. Personalising messages can lead to "binding people into a sense of ownership" of environmental protection (Payne, 2012, p.93; image source: Lockton et al, 2010).

Another example of personalised communication, as Payne (2012, p.93) describes, is "Bud Light in the US [who has] a new bottle with a signature panel pre-printed for customers to write a name, a phone number, a joke – anything to personalise it."

Figure 108. Examples of personalised communication, creating a more emotional attachment.

Moreover, as Cornwall Sustainable Tourism Project (CoaST) argues, sustainable behaviour needs to be made relevant to the individual because "no-one likes to be talked at as if they were just a number or an anonymous dot in a huge crowd" (CoaST, 2011c).

Essentially, the basic communication insight identified from the literature review is what James (2012, p.6) illustrates: "Focus messaging on an individual. Use 'you'." [60]

Figure 109. Personalised communication material within a Cornish train (photo by author).
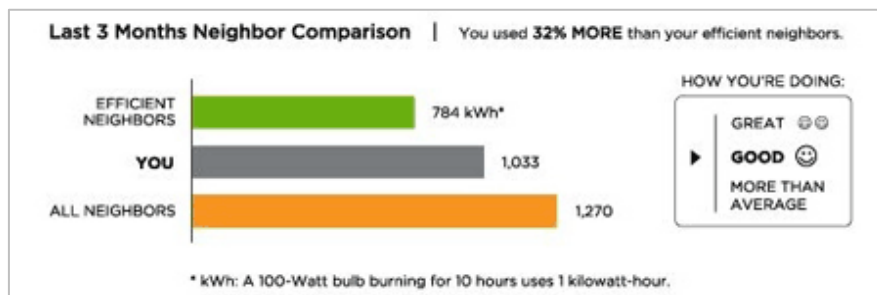
Figure 110. You: examples of personalised communication (Image source: Design Thinkers, 2010).

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[60] See also de Kort et al's (2008, p.7) study on "Persuasive Trash Cans": "Do you leave **your** litter lying around?".

3.5.6 Validation (Emotional Intelligence)

As Sussman et al (2012, p.601) argue, psychological reactance is "an important, but often overlooked, aspect of pro-environmental persuasive messages". According to Brehm (1966), psychological reactance can be described as our instinctive negative reaction to anything that threatens our autonomy. Additionally, as Sussman et al (2012, p.597) explain, "In some cases, an attempt to persuade others using a visual prompt (or any other technique) may be met with reactance – the desire to engage in the opposite behaviour to that being advocated as a form of protest." [61]

So, how can one be persuasive without triggering a psychological reactance? What is a way to disarm people's instinctive defensiveness to being told what to do? Studies on persuasion tell us that acknowledging and validating:

- people's barriers & complaints to compliance (Kronrod et al, 2011; Werner et al, 2009)
- people's freedom of choice (Gueguen and Pascual, 2005).

can reduce psychological reactance and defensiveness towards a behavioural request and, thus, increase the likelihood of compliance. For example, Carpenter (2013) describes Gueguen and Pascual's (2005) "But You Are Free to Accept or Refuse" (BYAF) technique; as he explains:

> "One of the experimenters approached individuals walking alone in a shopping mall in France. In the control condition, the experimenter made a simple direct request: 'Sorry, Madam/Sir, would you have some coins to take the bus please, please?'. In the experimental condition, the experimenter added: 'But you are free to accept or refuse'. Those in the experimental condition were substantially more likely to comply with the request."

As Carpenter (2013) argues, this technique is developed "on the basis of psychological reactance theory (Brehm, 1966). Purportedly the phrase weakens the target's perception that her or his freedom to say 'no' is being threatened."

Moreover, according to the area of Environmental Psychology (Kronrod et al, 2011, p.4), "acknowledging possible obstacles to compliance on the side of the addressee, such as lack of time or inconvenience, have been found to elevate compliance with the request". For example, as Werner et al (2009, p.195) explain, "the same argument that 'recycling is important' was viewed more favourably simply when the sign also acknowledged that recycling could be

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[61] Sussman and Gifford (2012, p.601) experimented with a pro-environmental sign. One of the message-receivers responded negatively towards their sustainability initiative and argued that the sign could be simpler: "... without having your views shoved in my face like this."

inconvenient". As Nir Eyal (2013) explains, "these few words, placed at the end of a request, are a highly effective way to gain compliance, doubling the likelihood of people saying 'yes.'".

Taking a closer look at the above examples, one can understand that "the linguistic manipulation of a request had an effect on compliance to the request" (Gueguen and Pascual, 2005, p.299). More specifically, by adding the persuasive element of 'Validation' [62] to a behavioural request and explicitly reaffirming people's free will instead of just implying it, "disarms our instinctive rejection of being told what to do" (Nir Eyal, 2013) and, thus, increases the likelihood of persuasion.

Initial request	Validation added
"Sorry Madam/Sir, would you have some coins to take the bus please?"	"Sorry Madam/Sir, would you have some coins to take the bus please? But you are free to accept or refuse."
"Please recycle. It is important."	"Please recycle. It may be inconvenient but it is important."

Figure 111. Explicitly acknowledging people's freedom of choice as well as barriers and/or complaints, increases the likelihood of persuasion (adapted from Carpenter, 2013; Werner et al, 2009; Gueguen et al, 2005).

Below are visual examples of messages that employ emotional intelligence (Pink, 2014; Tromp et al, 2011) by acknowledging people's barriers and complaints and sympathising with message-receivers in order to nudge them to desired reactions.

Figure 112. Both figures (above: Road traffic jam during construction work/ below: Long queue at a restaurant) employ emotional intelligence by demonstrating sympathy and acknowledge people's barriers and complaints (images source: Daniel Pink, 2014a).

Last, if "a sense of freedom" is something ingrained into the experience of travelling (Budeanu, 2007, p.502), then the persuasive element of Validation (Emotional Intelligence) can be especially useful when influencing people's behaviour within the context of Tourism. In wilderness settings, for example, 'interpretive' signs (see left side of Figure 113) may be more appropriate than 'sanction' signs (right side), taking into consideration the overall demands of the tourism (Duncan et al, 2002, p.21) where "maintaining a sense of autonomy is critical to enjoying an experience" (Nir Eyal, 2013).
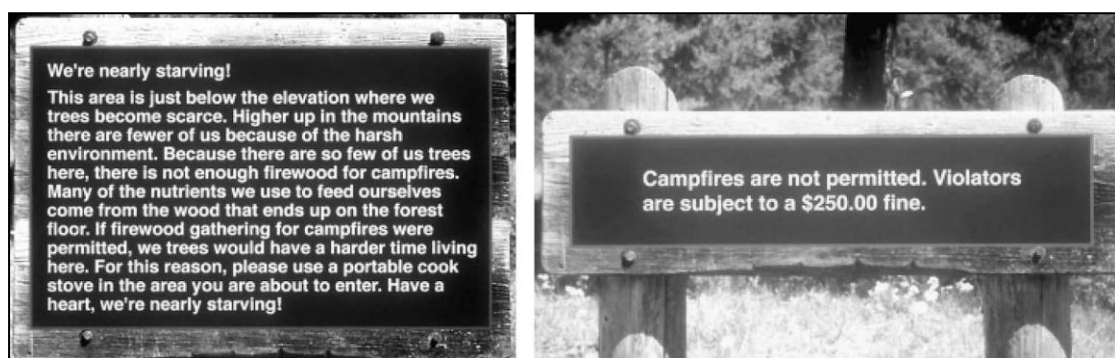
Figure 113. Interpretive or Sanction? Which kind of sustainability messages are appropriate for the context of tourism? (image source: Duncan et al, 2002).

3.5.7   Reasoning the Request: Persuasion through Self-Transcendent (ST) Values

"I am dragged along by a strange new force. Desire and reason are

pulling in different directions. I see the right way and approve it, but

follow the wrong."

– Haidt, The Happiness Hypothesis, 2006, p.4.

"…'What is this miracle?' he cries. 'What are these mysteries called: trees, sea, stones, birds?'"

– Nikos Kazantzakis, Zorba the Greek.

If we take a look at the definition of **persuasion** (Hornby, 2005): "persuade (sb into sth/ into doing sth): to make sb do smt by giving them good reasons for doing it", we can understand that persuasion depends upon 'reasoning'. Indeed, as Duncan et al (2002) argue, adding a reason to a requested action rather than simply stating a request, increases its persuasiveness, i.e. the likelihood of people responding to it. This statement is highlighted by Sussman et al (2012, p.601) who state that "when a behavioural request is accompanied by an explanation, internalization is increased and behavioural adoption is more permanent."; a good example is the sustainability sign illustrated in Figure 114 below. Therefore, Goldstein et al (2008b, p.142) advise communication-designers:

> "be sure to state the reasoning behind your request. That may sound obvious, but too often we mistakenly assume that other people understand the reasons behind our requests."

The above arguments are endorsed by studies on message-framing by Behavioural Science that demonstrate "the unique motivational influence of the word **because**": as Goldstein et al (2008b, p.141)[63] explain, when using the word 'because' followed by any type of rationale, ("no matter how poor"), can lead to "nearly the same elevated levels of compliance as when the reason was wholly legitimate".

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[63] Goldstein et al (2008b, p.142) also explain that "the results of this study suggest that when the stakes are low, people are more likely to take mental short cuts when deciding how to behave, rather than thinking hard about the issue. On the other hand, when the stakes are high, people really do take the strength of the requester's reasoning into consideration when deciding how to respond."
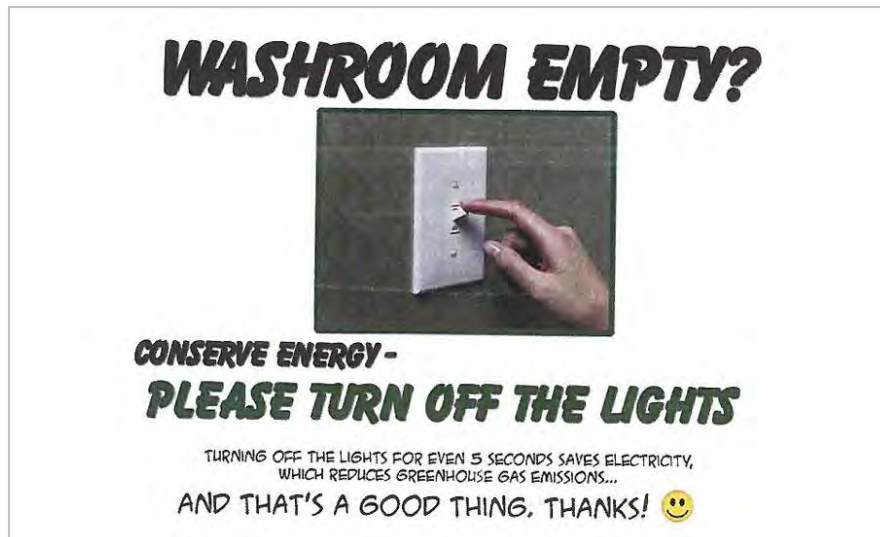
Figure 114. "Please turn lights off, **because ...**": Signs that explain a reason for a requested action are usually more effective than signs that simply state a request (image source: Sussman et al, 2012).

The above findings from the literature review can, first, once again demonstrate that "small changes in the way that requests are made can often lead to startlingly big results" (Goldstein et al, 2008b, p.139), something that, as discussed previously, confirms the rationale for choosing language and words as this project's medium to sustainable behaviour; second, the above insights can help us understand that:

- there is a direct link between 'persuasion' and 'reasoning'
- providing a reason makes a behavioural request more persuasive.

Here, taking into consideration Eco's (1984, p.344) statement that "people perceive a line of reasoning more convincing than others", one could legitimately ask: What is "a good reason" for doing something? What is a good reason that makes a request about sustainable behaviour persuasive, and which reasoning should a message about sustainable behaviour best appeal to? As discussed in Chapter 2, it is widely acknowledged that consumer behaviour creates an impact on the environment and some say that altering our consumption patterns for the sake of the planet is a blindly obvious reason to motivate change.[64] But in a fairly recent CNN interview (Adbusters, 2012), when the interviewee[65] made a connection between western-society's conventional consumption-patterns and the global environmental, psychological, and political consequences they create, the news anchor – after she expressed her doubt and exasperation on that statement – argued that climate change is not 'a good reason' for

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[64] This argument is strongly supported also by the author of this thesis.

[65] Kalle Lasn, co-founder of Adbusters and author of "Culture Jam: How to Reverse America's Suicidal Consumer Binge – and Why We Must".

motivating people to refrain from excessive consumption, but rather she listed other reasons that in her viewpoint would be more appealing to shoppers, such as spending more time with family. Even though a direct link between human activities – especially conventional production and consumption patterns of "consumer-based neoliberal western societies" – and climate change has long been established by the scientific community (Cohen et al, 2014, p.1),[66] the (utterly incomprehensible) news-anchor's reaction is a clear example of the variety of reasons that can motivate people into doing (or not doing) something. As Fyodor Dostoevsky (In: McKenzie-Mohr et al, 1999, p.19) argues, identifying and explaining the core, underlying "causes of human actions" is an "immeasurably complex" issue.[67] For example, as Sussman et al (2012, p.601) describe, "Some of the most effective 'action-oriented' pro-environmental behaviours are often conducted for non-environmental reasons (e.g., walking rather driving because it is healthy, not because it is good for the environment; Whitmarsh, 2009)"; or as McKenzie-Mohr et al (1999, p.19) also explain, "individuals recycle because it is convenient, those around us recycle, it makes us feel good about ourselves, or we are simply badgered into it by our children."

Figure 115. Different reasons have different influence on people (image credit: n.d).

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[66] More specifically, Cohen et al (2014, p.1) explain: "There now exists a general scientific consensus that anthropogenic climate change is an inescapable reality (IPCC, 2007). The climate science has been subject to, and withstood, "withering scrutiny" (Garnaut, 2008). The consequences of climate change – social, economic, environmental – will be far reaching (Stern, 2007)."

[67] "Our deepest forms of knowing transcend concepts, rational formulae, theories and explanations. Through contemplative practices and a reorientation of one's priorities, we learn to place less emphasis on our rationalistic quest for explanations, and develop a disposition of humility, receptivity and attention to reality." (Merton, 1969. In: Walker, 2014, p.94).

Notably, McKenzie-Mohr et al (1999, p.19) argue:

"Recycling, it has been suggested, is popular because it serves to alleviate our guilt for not making the more difficult and inconvenient changes towards sustainable living. This hypothesis suggests that curbside recycling is simply an antidote to the guilt we feel when, for example, just after placing our recycling container at the curb, we hop into our own personal global warming factory and head off to work."

Thus, in regards to the explanations people use to describe the reasons that trigger their behaviour, Marshall (2014, p.79), a leading expert in sustainability communications, argues:

"It is sometimes argued that people do not accept climate change because they feel powerless to do anything about it [...] But it is clearly more complex than this. People have no personal power over terrorism or drug use or the national economy, but that does not prevent them from talking about it and demanding collective action. Ironically, through their own emissions, they may have more personal involvement in climate change than any of these issues".

Cialdini et al's (2004) case study is a clear science-based example that demonstrates the different levels of compliance that can result from employing different reasons to frame the same behavioural request ('conserving energy by using fans instead of A/C'). Table 116 below illustrates that appealing to either environmental, ethical, or even economic reasons was not effective enough to change people's behaviour as employing a reason that described local residents' actions (also known as: 'descriptive norm').
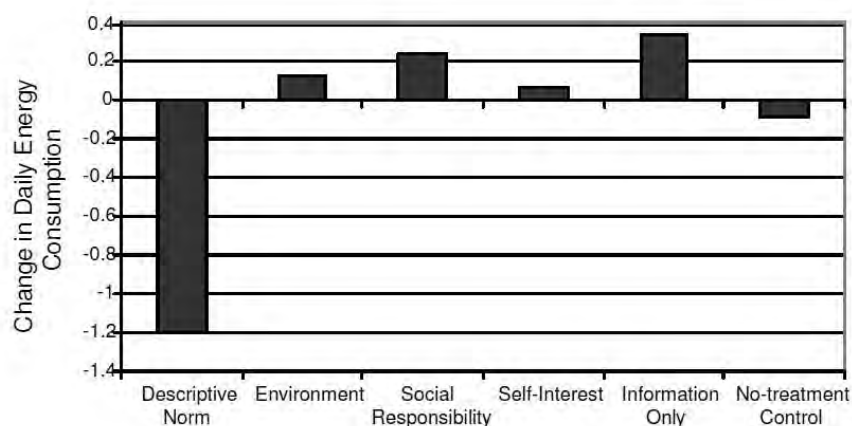
Condition and Graphic	Doorhanger Text
Descriptive Normative Information	**Join Your Neighbors in Conserving Energy.** Summer is here and most people in your community are finding ways to conserve energy at home. How are San Marcos residents like you conserving this summer? By using fans instead of A/C! Why? In a recent survey of households in your community, researchers at Cal State San Marcos found that ____% of San Marcos residents often use fans instead of air conditioning to keep cool in the summer. Using fans instead of air conditioning- Your Community's Popular Choice!
Self-Interest	**Save Money by Conserving Energy.** Summer is here and the time is right for saving money on your home energy bill. How can you save money this summer? By using fans instead of A/C! Why? According to researchers at Cal State San Marcos, you could save up to $54 per month by using fans instead of air conditioning to keep cool in the summer.
Environment	**Protect the Environment by Conserving Energy.** Summer is here and the time is right for reducing greenhouse gases. How can you protect the environment this summer? By using fans instead of A/C! Why? According to researchers at Cal State San Marcos, you can prevent the release of up to 262 lbs of greenhouse gases per month by using fans instead of air conditioning to keep cool this summer! Using fans instead of air conditioning- the Environmental Choice.
Social Responsibility	**Do Your Part to Conserve Energy for Future Generations.** Summer is here and we need to work together to conserve energy. How can you conserve energy for future generation? By using fans instead of A/C! Why? According to researchers at Cal State San Marcos, you can reduce your monthly demand for electricity by 29% using fans instead of air conditioning to keep cool this summer! Using fans instead of air conditioning- the Socially Responsible Choice.
Information Only	**Energy Conservation.** Summer is here and the time is right to conserve energy. How can you conserve energy this summer? By using fans instead of A/C!

Table 116. Why use fans instead of A/C?: different reasons for motivating energy consumption resulted in different levels of compliance (images source: Cialdini et al, 2004).

Moreover, in the light of the above behavioural insights, Corner (2012, p.21) suggests a link between 'persuasion' and 'values' by arguing that "different ways of framing a message speak to very different values" (see Figure 117) and, as he explains, in order to effectively craft persuasive messages about sustainable-behaviour, communication-designers need to ask a key question: "What kind of values is my message appealing to?".[68]
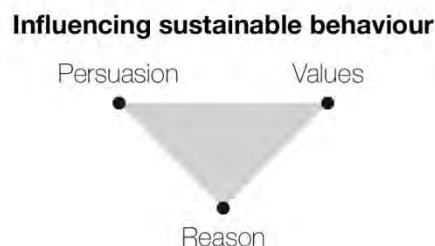
Figure 117. A link between persuasion, values and reasoning (based on Corner, 2013; Knowles, 2012; Sussman et al, 2012; Duncan et al, 2002).

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[68] In the following section ('Morality, Values and Sustainable Behaviour'), we explore this question within the broader subject of design for sustainability, asking: What kind of values do our designs activate? What kind of behaviours do our designs encourage?

An answer to Corner's question comes from Knowles (2013) from Lancaster University, who, based on a systemic literature review, suggests that any design initiative aiming at influencing long-term pro-environmental behaviour should best appeal to Self -Transcendent (intrinsic) values. More specifically, Knowles (2013, p.2714) explains that:

> "Self-Transcendent (ST) values, related to concern for others – are demonstrably conducive to pro-environmental behaviour (e.g. Schultz et al, 2005). These values can therefore be described as 'positive' with respect to pro-environmental behaviour change, since activating these values increases pro-environmental behaviour. On the flipside, Self-Enhancement (SE) values, related to concern for personal welfare, are 'negative', inhibiting such behaviours (e.g. Sheldon & McGregor, 2000). Crucially, activation of SE values will deactivate the more 'positive' ST values (and vice versa; see 'see-saw effect'), with negative consequences to the goal of promoting pro-environmental behaviour."

Values in regards to pro-environmental behaviour change

Positive values	Negative values
Self-Transcending (Intrinsic)	Self-Enhancing (Extrinsic)

Figure 118. Description of values in relation to sustainable behaviour change (adapted from Knowles, 2013, p.2715).

But, first of all, what is a value? According to Schwartz (1992. In: Corner, 2012, p.21), "A value is usually defined as a 'guiding principle in the life of a person'."[69] As Corner (2012, p.21) explains, "[t]here are two broad categories of values, which are known as 'self-enhancing' and 'self-transcending'. People who identify strongly with 'self-enhancing' or 'extrinsic' values (e.g. materialism, personal ambition) tend not to identify strongly with 'self-transcending' or 'intrinsic' values (e.g. benevolence, respect for the environment)." The figure below displays Schwarz's 1992 Circumplex as found in the study of Knowles, 2013, p.2716: "Compatible values appear closer to one another around the Circumplex. Conflicting values are positioned opposite one another."

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[69] Knowles (2013, p.2714) provides a complementary definition: "Values are motivations that influence attitudes and behaviours."
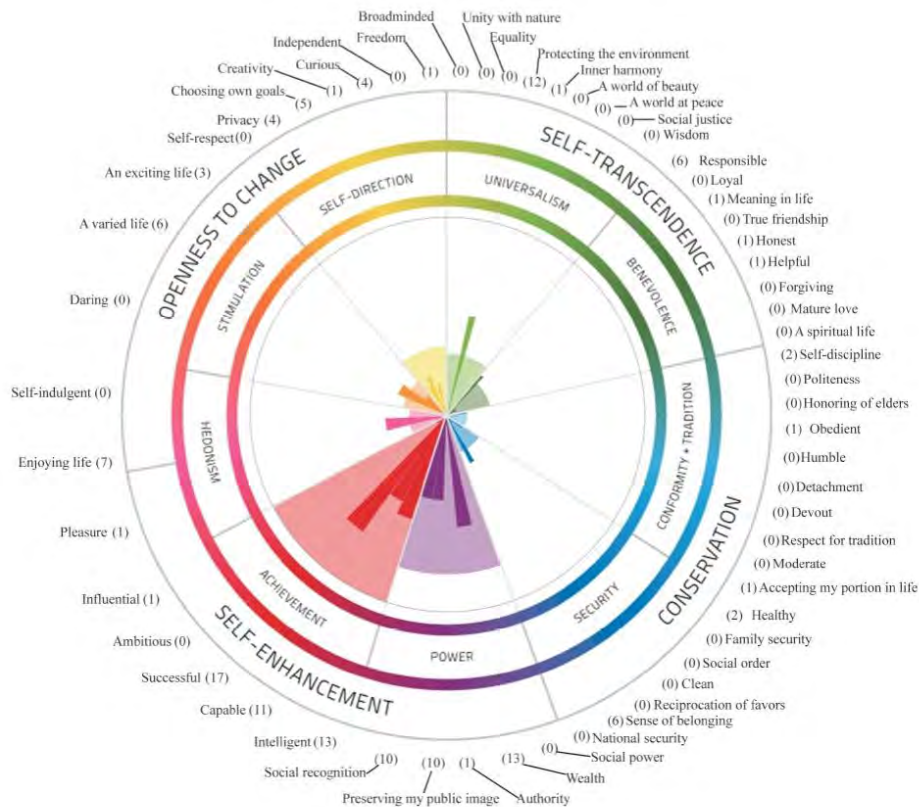
Figure 119. The Schwartz Circumplex (Schwarz, 1992. In: Knowles, 2013).

It is well-known that appealing solely on economic grounds can be a situational 'solution' that influences human behaviour in the short-term (Burgess et al, 1971). Thus, as illustrated through in-depth analysis of personal interviews, it comes as no surprise that economic incentives (rewards) is also an approach utilised by the Cornish Tourism industry; for example, a Cornish farm-cottage owner characteristically argues:

> "...the thing that makes the biggest difference of them all is money. They see they are going to get something out of it, that is what makes people continue to do it. You almost need to incentivise it, and that is how you get the most results. [...] you know, you've help us save money, you helped us be more environmentally friendly, that's fantastic, but, you know, for being green, here you go guys, one person, for a night free when you come back." (Personal Interview B)

Likewise, another Cornish holiday-cottage owner explains:

> "rewarding customers for their pro-environmental behaviour [...] I think it's a good way of actually of getting people to engage a bit more. So I think most marketing strategies do offer

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rewards, you know, that's a way of communicating with people. [...] a free night stay in our hotel or something". (Personal Interview D)

Nevertheless, Knowles (2013) and Corner (2012) identify the need for a different, values-based approach for communicating sustainability; an approach that aims for long-term change and is based on Self-Transcendent Reasoning, i.e. reasons that exercise intrinsic, beyond-self values. As Corner (2012, p.21) advises:

> "Make a list of all the possible reasons you can think of for engaging in a particular behaviour that you're interested in (e.g. encouraging car-sharing). Divide them into 'self-interested' and 'self-transcendent' group, and before you reach for the money-saving lever, try to construct a less self-serving way of framing your message."

Moreover, as Talking Climate (2011a) argues, "putting a financial value on an endangered species, and building an economic case for their conservation 'commodifies' them, and makes them equivalent (at the level of deep frames) to other assets of the same value (like a hotel chain). This is a very different frame to one that attempts to achieve the same conservation goals through emphasising the intrinsic value of rare animal species – as something that should be protected in their own right."[70]

Please do not vandalise our facade. vs.

Dear Graffiteers,
Please do not vandalise our facade.
The money saved from repainting it is being donated monthly to institutions that help orphaned children and those who have serious illness.

Figure 120. An example of reasoning the request by appealing to values beyond-self (adapted from Payne, 2012, p.42).

Knowles (2013) explains that people hold both categories of values within them, but the categories cannot co-exist with the same strength simultaneously because values are subject to the "see-saw effect"; in other words, when a category of values increases, the opposing reduces (but does not disappear because "values are dynamically interrelated") (Schwartz,

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[70] Here, it is interesting to note that: "The central argument of the Common Cause report is that for 'bigger-than-self' problems like climate change (i.e. problems that may not be in an individual's immediate self-interest to invest energy and resources in helping to solve), campaigns that propagate or endorse self-enhancing values may actually undermine the 'common cause' that links them. This means that there is a common cause that links not just different environmental campaigns, but 'bigger than self' problems across different sectors (e.g., dealing with poverty)." (Talking Climate, 2011a).

1992. In: Knowles, 2013, p.2714).[71] Various dynamics of values can be identified in the figure below.

Additionally, Talking Climate (2011a) argues that: "people who hold 'self-transcendent' values (especially pro-environmental values, and high levels of altruism) are more likely to engage in sustainable behaviour (Stern, 2000), show higher concern about environmental risks like climate change (Slimak and Dietz, 2006), are more likely to perform specific actions such as recycling (Dunlap et al., 1983) and are more likely to support climate mitigation policies (Nilsson et al., 2004)."

Values Dynamics

See-saw effect: Activating one value will deactivate opposing, dissimilar values [4].

Bleedover effect: Activating one value will activate similar, neighboring values on the circumplex [4].

Positive spillover: Adoption of a behavior that increases the likelihood of adoption of similar and/or more significant behaviors in the future.

Pro-environmental (ST-based) behavior motivated by ST values leads to further, more significant behavior change [2].

Negative spillover: Adoption of a behavior that decreases further such behaviors.

Pro-environmental behavior motivated by SE values leads to few subsequent pro-environmental behaviors [2].

Figure 121. Dynamics of values (Knowles, 2013, p.2714)

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[71] Schwartz (1992. In: Knowles, 2013, p.2714) also argues that "certain values are compatible and tend to be found together within individuals, while others are in conflict and tend not to appear together."

In 2012, Chilton et al published a report titled "Communicating bigger-than-self problems to extrinsically-oriented audiences". The report is part of the Common Cause initiative (also see: Crompton, 2010) supported by COIN (Climate Outreach and Information Network), CPRE (Campaign to Protect Rural England), Friends of the Earth, OXFAM, and WWF-UK. The main argument of the report is that designing communications that wish to motivate "sustained expressions of concern about social and environmental challenges", should "aim to engage intrinsic values" (p.4). In other words, if a message aims to change people's behaviour towards environmentally and socially friendly patterns in a durable way then it is best to engage message-receivers' intrinsic (self-transcendent) values.

Chilton et al (2012) also highlight that "intrinsic values are there to be engaged in us all" (p.3); that is why one of their key recommendations is that even if the target audience consists of "people who attach relatively greater importance to extrinsic values" (p.6), it is still of great importance to appeal to intrinsic values if durable behaviour change is the aim of communications and campaigns with social and/or environmental concerns. This means that, no matter if the audience (message-receivers) identifies strongly with ST or SE values, messages promoting sustainable behaviour should "make an attempt to target 'self-transcending' values" otherwise "they may inadvertently promote precisely the types of personal and cultural values that will make sustainable behaviour less likely in the longer term." (Corner, 2012, p.22). Additionally, Evans et al (2012. In: Knowles, 2013, p.2715) suggest to "aim for long-term change" and to "persuade with 'positive' values" (see also 'negative spillover'):

> "Persuasive sustainability presents economic and environmental reasons for behaviour change alongside one another, presumably (and sometimes explicitly) to appeal to people with different motivations. Unfortunately, while this mixed-motivation strategy is shown to increase behaviour change in the short-term, it also tends to decrease it in the long-term".[72]

Essentially, as Corner (2012, p.23) puts it: "The job of a sustainable behaviour practitioner is to help [people] see the bigger picture, and make arguments about sustainability that an appeal to their wallet cannot do". That could be why Knowles (2013, p.2713) emphasises the need to "leverage values research to develop radically different & more effective interventions [...] for addressing the challenge of sustainability", and challenge conventional communication approaches and their "overwhelming appeal to Self-Enhancement values", ("the same strategic approach associated with historically unsuccessful environmental and social campaigns").

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[72] "Indeed, appealing to values associated with consumption and self-interest, such as prestige, status and image, can be counterproductive. This is because it serves to suppress those intrinsic and self-transcendent values that correlate with systemic concerns about bigger-than-self problems, which include social equity and environmental care" (Crompton, 2010. In: Walker, 2014, p.75).
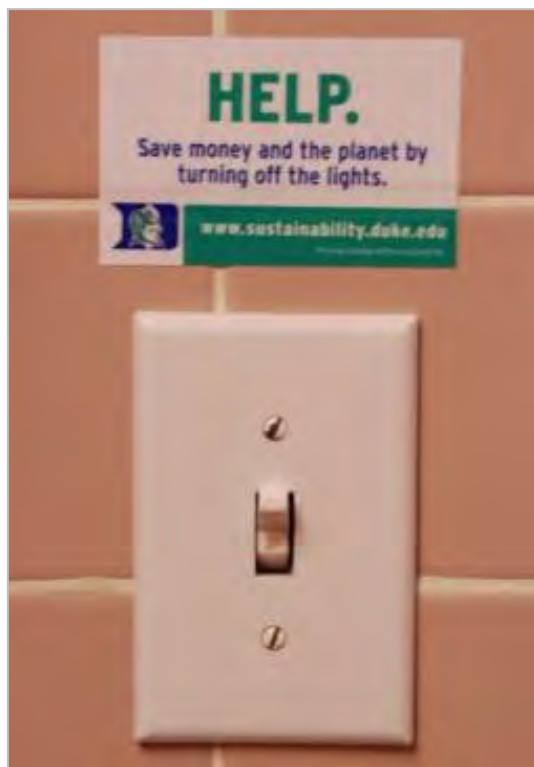
Figure 122. Reward yourself or reward others? Two signs that employ a mixed-motivation approach for behaviour change; a strategy termed as counter-productive to sustainable behaviour in the longer term (left image credit: Duke University; right image credit: Dr. Yorick Benjamin).

Since this is a research project that focuses on persuasive communication for sustainable behaviour, it would be important to consider Knowles's (2013, p.2715) "strategic insights for persuasive sustainability":

Persuade with 'positive' values

- Persuasive sustainability overwhelmingly appeals to – and in turn reinforces – 'negative', SE values, which are shown to undermine pro-environmental behaviour. A more effective strategy might be to try appealing to ST values, and simultaneously reduce SE appeals.

Broaden Universalism appeals

- Persuasive sustainability tends to engage only one Universalism value, 'Protecting the environment'. Activating other Universalism values (e.g. 'Unity with nature', 'Equality', 'Social justice', etc.) would work to help foster pro-environmental behaviour by strengthening Self-Transcendence (see 'bleedover')."

Foster Benevolence values

- Persuasive sustainability could create further 'bleedover' concern for the environment indirectly by fostering concern for others through activation of Benevolence values, e.g. by developing technologies that allow people to explore spirituality or strengthen relationships with family and friends.

Aim for long-term change

- Persuasive sustainability presents economic and environmental reasons for behaviour change alongside one another, presumably (and sometimes explicitly) to appeal to people with different motivations. Unfortunately, while this mixed-motivation strategy is shown to increase behaviour change in the short-term, it also tends to decrease it in the long-term (Evans et al, 2012, in Knowles, 2013, p.2715) (see 'negative spillover').

Target values, target apathy

- Persuasive sustainability attempts to encourage behaviour change in people who are apathetic, but targeting Self-Transcendence (ST) values might, instead, address the source of environmental apathy.

Table 123. "Strategic insights for persuasive sustainability"

(adapted from Bran Knowles, 2013, p.2715).

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3.5.8 Morality, Values and Sustainable Behaviour

"Someone sells us toys in a cheap cartoon

Someone sells us cars in the latest Bond that's coming soon

[...] We're all too busy buying sex, buying war

Buying self-confidence, security, insurance plans

Just buying forever

[...] We're all on sale, all on sale."

– Pain of Salvation, 'Kingdom of Loss'.

Design is not neutral (Postman, 1985; Heidegger, 1977). Whether it is technology, environments or communications, our designs encourage specific behaviours and promote specific values (Walker, 2014) that can have great implications on our relationship to others, the world and ourselves (Verbeek, 2005; Borgmann, 1995).

The way we design our material culture is a human choice; it is an expression of our own (limited) ways of seeing the world around us (Walker, 2014). Respectfully, the way typical interventions for promoting sustainable behaviour are designed and articulated are also an expression of the priorities and the underlying values we hold as a society. Currently, western societies tend to glorify an "Economic Monoculture", viewing everything through an economic lens and commodifying it (Michaels, 2011). This practice is critically reflected upon by a number of leading voices on sustainability who are sceptic about the priorities set by western civilisation; for example, Walker (2010a, p.813) illustrates that "our language reveals how we tend to view the natural environment when we refer to its constituents as 'resources', sources of 'supply' that are there to 'exploit'."

As Manzini (2005, p.3) argues, "a resource is not a gift of nature", and viewing the planet as "disposable" has only manifested a totalitarian system of endless consumerism, where "High sales are always 'good news', low sales are always 'bad news', even if the product on offer is farmyard porn." (Monbiot, 2010). For example, Figure 123 below illustrates a children's toy that even though it is made of extremely hazardous materials, it is still available in the market. "What kind of culture would produce a product of this kind and then label it and sell it to children?" (McDonough, 2005). If "our designs are vivid arguments about how we should live our lives" then is this "the vision of the good life" we are designing for? (Deterding, 2011).

Figure 124. Is this our vision of the good life? (image source: McDonough, 2005).

Furthermore, in regards to *technology-design*, the 'microwave oven' is an example of design shaping human existence through the behaviour and values it (intentionally or unintentionally) promotes. More specifically, as Verbeek (2005) explains, due to notions of 'convenience', 'availability' and 'speed' embedded in the design, the microwave oven encourages a particular kind of meal amongst its users: the ready and fast meal that can be prepared for one person. This eventually changed human eating habits, where fewer meals are taken in company and more are eaten solo. Thus, through promoting behaviours and values rooted in the "mechanization of eating" (Hallnäs et al, 2001), that piece of technology-design was able to alienate domestic social activities, move humans away from reflecting on the art of preparing and the art of eating the meal, and thus disconnect us from the "culture of the table"; the most sacred and democratic kind of festive engagement in the home (Borgmann, 1984).

Respectively, the behaviour and values *communication-design* promotes can also shape human existence. As we discuss in detail throughout this Chapter, the way a message is framed encourages specific behaviours that depend heavily on the kind of values the message promotes (Corner, 2012).

Notably, Monbiot (2010) argues:

> "In our hearts most of us know it is true, but we live as if it isn't. Progress is measured by the speed at which we destroy the conditions which sustain life. Governments are deemed to succeed or fail by how well they make money go round, regardless of whether it serves any useful purpose. They regard it as a sacred duty to encourage the country's most revolting spectacle: the annual feeding frenzy in which shoppers queue all night, then stampede into the shops, elbow, trample and sometimes fight to be the first to carry off some designer junk which will go into landfill before the sales next year. The madder the orgy, the greater the triumph of economic management."

Darin Oswald/Idaho Statesman/MCT

Figure 125. Black Friday (image source: The Flaneur's Turtle, 2013).

Fortunately, critical designers Dunne and Raby (2001) remind us that "this is one version of reality, and not necessarily the best one." Therefore, if design is "the most powerful tool" for social and environmental change (Papanek, 1983), then academia needs to educate the next generation of designers to avoid becoming mere "skin semioticians" but "agents of social and environmental change" (Manzini. In: Seago et al, 1999), that address concerns of human purpose and fulfilment (Walker, 2014) through designing products, services, environments, and communications that counter our limited, destructive, and self-imprisoning ways of seeing the world.

Based on the above insights from the literature review, this project challenges the way conventional interventions for promoting sustainable behaviour are designed and articulated, and envisions a society that gives different, more meaningful priorities to creating its material

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culture. Thus, this sustainable design research aims not to lose sight of the larger concerns of human purpose and fulfilment that lurk behind its set aims and objectives.

Young designers can be taught that designing for systemic change involves being critical about human needs and wants, and asking "Why" and "What if" questions (Dunne and Raby, 2009).[73] For example, what if in this age of acceleration and constant distraction, we walked the streets of our city and instead of seeing messages that remind us to buy the latest electronic gadget,[74] we saw messages that reminded us to place our fullest attention to the present moment – Here & Now.[75] What would our material culture and society look like then? Because, as Kasser (2002) argues, in today's information overloaded world, the average UK citizen is constantly bombarded with a plethora of messages that strive to get his/her attention in order to influence him/her to engage in specific actions. As Crompton (2013) points out in his TEDxExeter talk,[76] most of these messages "[do] a lot to exercise [one's] extrinsic values":

> "He sees hundreds, perhaps thousands of advertisements a day, which remind him he should establish his social status or his image through the stuff that he consumes; he reads, listens to, or watches media which constantly remind him of the importance of the celebrity lifestyle; he is constantly reminded of the importance of economic competitiveness as the primary indicator of national progress; and he is frequently reminded that he is a consumer foremost and a citizen secondarily." "If you're selling […] a particular brand of perfume, it really doesn't matter what values you appeal to; whereas if you're fostering a care about other people it is critically important what values you appeal to. Think of the number of times that you've been told 'urge to adopt environmentally friendly behaviour' on the basis it will save money; or that you should express concern about the loss of British biodiversity on the grounds that it's economically important, or that you should be concerned that disabled people [receive] equal rights as the rest of us, on the grounds that they contribute a lot to national productivity. These are all arguments which serve to engage and exercise those more selfish extrinsic values. And whatever the short-term benefits of these arguments […] it seems that in the longer-term they're likely to be counterproductive."

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[73] "The wise man doesn't give the right answers; he poses the right questions." Claude Levi-Strauss, famous French anthropologist, 1908-2009.

[74] Aspirational goods add to social division and social inequity because they feed the values of social status and social superiority and, thus, they are ethically and spiritually questionable (Walker, 2014).

[75] Inspired by Aldous Huxley's 'mindfulness reminder birds', in his last novel: "Island", 1962.

[76] Including the above excerpt from Crompton's 2013 TED-talk as a full-length quote and not as a digested summary is a conscious decision, because Crompton's original wording speaks powerfully as it is, and restraining it would do no justice to its content.

Crompton's main argument is endorsed by Corner (Guardian, 2013d) who argues that "morality is missing from the debate about sustainable behaviour": what happened to doing something simply because it is the right thing to do?
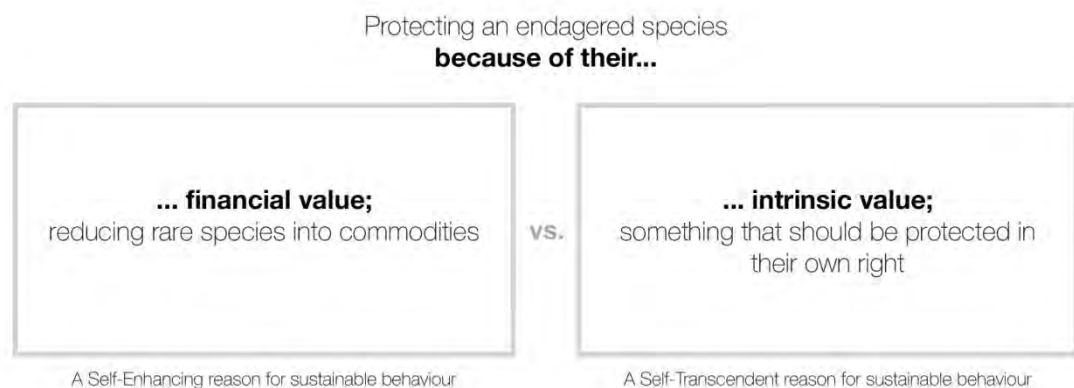
Figure 126. Morality and Sustainability: What kind of values is your message appealing to? (Corner, 2012). What about promoting the protection of nature not because it is profitable, but because it is "simply the right thing to do"? (Guardian, 2013d; image adapted from Talking Climate, 2011a).

Based on the above arguments, the tourism industry of Cornwall could also aim to measure the benefit of tourism in a more intelligent way, such as focusing on the local community's well-being and confidence, not on mere number of arrivals. According to Monbiot (2010), a fundamental escape from the totalitarian system of consumerism would be to stop measuring a nation's progress in terms of GDP growth, but rather according to its levels of happiness and well-being. [77, 78] Of course, this calls for a cultural understanding of what is considered important within a community or nation and which are the priorities of an industry or society. That is why the following section critically reflects upon tourists' priorities and perception of a 'good' holiday experience. Because, as Corner (2012, p.57) argues:

> "How people act says something about their underlying values, the priorities they hold, and the type of world they want to live in. It may have become a tired old cliché, but 'being the change you want to see' still sends out an important message. If done right, promoting sustainable behaviour can mean so much more than a clever slogan or an appeal for people to 'do their bit' – it can be a political act in itself."

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[77] As Monbiot (2010) explains, 'crime' is added to GDP as a positive number. "GDP is a measure of economic activity, not standard of living." [...] "extra growth does not automatically translate into human welfare and happiness." [...] "the total wealth of a nation can decline even as its GDP is growing."

[78] How to measure subjective well-being? A good starting point can be: Gross-National-Happiness (GNH), Kingdom of Bhutan. See also: "Office for National Statistics (2014): Personal Well-Being in the UK 2013/14".

3.5.9 "Have a nice time": questioning tourists' perceptions and expectations of a "good" holiday experience

"The only downer is, everyone's got the same idea. We all travel thousands of miles just to watch TV and check in to somewhere with all the comforts of home, and you gotta ask yourself, what is the point in that?"
– The Beach (2000).

Following on from the discussion in the previous section on the vision of 'the good life', this section, by asking informed questions (but not providing the answers), critically reflects upon perceptions of a 'good' holiday experience. Notably, this section is informed, first, by a part of the Sandpit discussion/debate the author chaired at the Royal Cornwall Show, with representatives of the Cornish Tourism industry (e.g. Head of Visit Cornwall's Malcolm Bell; see also Chapter 6: 'Focus group A: Cultural Tourism Sandpit, at the Royal Cornwall Show') and, second, by in-depth analysis of personal interviews conducted with Cornish accommodation-providers (members of CoaST's One Planet Tourism Network).

Figure 127. Tourists (artwork of Duane Hanson, 1981).

What does a 'good' holiday mean to us as tourists? How do we measure the quality of our holidays? Is it by the quality of our connection to the place we visit? The beauty of the natural environment, the local food, the culture and history, heritage, landscape and lifestyle? Or is it by the number of swimming pools that the hotel that accommodates us owns, or by the size of the showerhead in our bathroom? The bigger the showerhead, the better our holidays? What are our expectations as tourists?

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And what is the role of the tourism-industry in relation to these expectations? How does the industry respond to them? How does the tourism-industry provide its consumers with a 'good' holiday? For example, as the owner of a Cornish farm-cottage argues (Personal Interview B):

"I have these conversations with my guests, some of them say 'We're on holiday. For us a luxury hotel, cottage, whatever, has a rain headshower that really, really rocks. But if you put me in a little pathetic minimal shower, I'll think you're not a luxury place, you're actually just being mean, tight, not giving us a luxury experience'."

"So, to be at the top of your tree for quality and trying to be sustainable is actually quite a hard mix in certain places like the heating, like the water."

"It's difficult joggling at this perception of quality, and saving energy and resources. Because part of the guests in their psyche they're hardwired to think 'You're just being a cheapskate, you're being mean, you know, you're depriving me of something I've already paid for'."

In regards to Sustainable Tourism, is the tourism-industry the obedient butler discussed in Chapter 1 or can it fulfil its opportunity and obligation to lead the debate of sustainability? Does it provide the numerous swimming pools and the massive showerhead in the hotel bathroom as an attempt to meet their customers' expectations no matter the social and environmental implications these expectations and practices have? Does the tourism-industry feed the values of social status and social superiority that add to social division and social inequity, and thus are ethically and spiritually questionable? How can we escape this vicious circle? Is it a matter of tourists not demanding 'the massive showerhead', or is it a matter of the tourism-industry not supplying it?

Or does the tourism-industry attempt to be different and promote a holiday experience that promotes simplicity that develops not just around consuming stuff but also around emotionally connecting to the people and place of the local (Cornish) community? Because, turning an unnecessary light off is undoubtedly an important environmentally-friendly action but a more profound change could arise from redefining visitors' relationship to the place they visit, and from developing an emotional connection to the local community, building on, for example, "narrative, memory and authenticity to create value", and promote a new kind of Cornish-tourism experience that "is concerned with sharing and making, rather than just consuming." (Design Online, 2012b). This argument is endorsed by Krippendorf who, fifteen years ago, argued that humanity would increasingly start to witness tourists who seek "the satisfaction of social needs: contact with other people and self-realization through creative

activities, knowledge and exploration." (Krippendorf, 1987. In: Goodwin et al, 2003, p.272). Likewise, Goodwin et al (2003, p.271) illustrate that "There is increasing recognition of the significant shift away from the predominance of the traditional sun, sand and sea holiday towards more experiential vacations: holidaymakers are seeking holidays which provide them with more than two weeks on the beach and a tan."

As the owner of a Cornish guest house argues (Personal Interview C):

> "... we try to balance care of our guests which is first and foremost, with care for the environment, and it's not that the environment is second [laughs] but you know, because of our own philosophy of looking after people we put people first. We wouldn't like to have people having wet dirty towels, so if need be we would wash them every day but as a baseline we suggest that we wash them every three days."

Moreover, just as "the slogan 'I was just following orders' is never claimed as an excuse for acts contrary to human rights and freedoms [...] since the Nuremberg trials in 1945" (Sociology Professor Stefan Svallfors. In: Business Insider, 2013), climate change urges developed countries to also stop claiming the slogan 'But it creates jobs' as an excuse for human activities that are proven to create harmful consequences for the planet (e.g. building massive yachts, artic drilling, war).[79]

As the Sustainability manager of a Cornish hotel argues:

> "They come to us to relax and have a care-free time, and we don't want them to feel like we're SCRIMPING and saving because they are spending quite a lot on their holidays, and we want them to have a luxurious and indulgent time and it's up to us to make sure that they have that but at the same time we're doing all we can to make sure that that doesn't have a huge negative impact on the environment." (Personal Interview E)

Moreover, the owner of a Cornish farm-cottage argues:

> "The one thing and element of behaviour I am finding really difficult to change is the use of electricity and gas and water. People think when they're on holiday they paid for the house, the money is all spent, so really 'I can just use as much as I like'. And that is a really hard nut to crack. [...] there's an awful lot of people that would just say 'That's you just trying to be mean and

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[79] Or, as Cohen (1972, p.171) describes, creating "[a] tourist infrastructure of facilities based on Western standards [...] even in the poorest host countries".

you're just trying to deprive us of what we've paid for. You're not actually doing anything for the environment, you just trying to be cheapskate, and I'm not subscribing to that'. There is an element of the population who would actually look at that [body gesture: pointing at the sign] and say stuff like that, you know, 'You just don't want us to enjoy our holiday'. (Personal Interview B)

As Thackara (Design Online, 2012a) argues, "if we connect with the place then our role changes and we consider things differently [...] No one cares about a destination, everyone cares about someone's home" . Therefore, the Cornish Tourism industry could focus on reframing people's mindsets from being a tourist to a guest: You are not a Tourist here, this is your Home.

3.5.9   Knowing the Audience: who are the Message-Receivers?

"The first lesson of communications is 'know your audience'." (Futerra, 2006). This means that sustainable behaviour cannot be communicated through a one-size-fits-all template but, on the contrary, communication designers "need to tailor a message to the intended audience" (Chilton et al, 2012, p.7).

More than 4.5 million staying tourists visit Cornwall each year (Visit Cornwall, 2012). This results in a large audience of potential message-receivers to whom a message about sustainability needs to be communicated. Moser et al (2004. In: van der Linden, 2014, p.245) argue that "climate change is such a complex and elusive global hazard, the concept is difficult to communicate to various publics". As discussed previously, one reason for this difficulty is that the same message can be received differently by different people. Thus, how can we communicate effectively with such a large population of tourists visiting Cornwall and get sustainability messages across?

As McKenzie-Mohr et al (1999, p.87) explain, "In reality, rarely do you have just one audience. The messages that you develop will need to be tailored to the different segments of your community that you wish to reach." This argument is endorsed by many authors who argue that audience segmentation is a necessary part of communicating sustainability, and suggest various ways to segment an audience; for example, Futerra (2006) prompts communication designers to divide a population according to their "interests, habits, social links and preferred communications channels"; McKenzie-Mohr et al (1999, p.87) advise designers to "know the attitudes, beliefs and behaviour of the intended audience" prior to framing a message. Additionally, through a personal e-mail discussion (see also Chapter 6: 'Email communication'), a Sustainability Officer at the University of Toronto advises segmenting the population of hotel guests according to their demographics (e.g. Family, Business, etc) and the type of hotel in which they are staying (e.g. Luxury, Basics, etc).

Based on the above insights from primary and secondary data collection, and inspired by DEFRA's twofold segmentation model based on people's "willingness" and "ability" to act in environmentally-friendly ways (DEFRA, 2008. In: Cabinet Office and Institute for Government, 2010, p.50), this research project also uses two broad variables to segment the large population of tourists visiting Cornwall into two main categories, according to their:

- values (Corner, 2012)
- perceived issue importance (Kronrod et al, 2012)
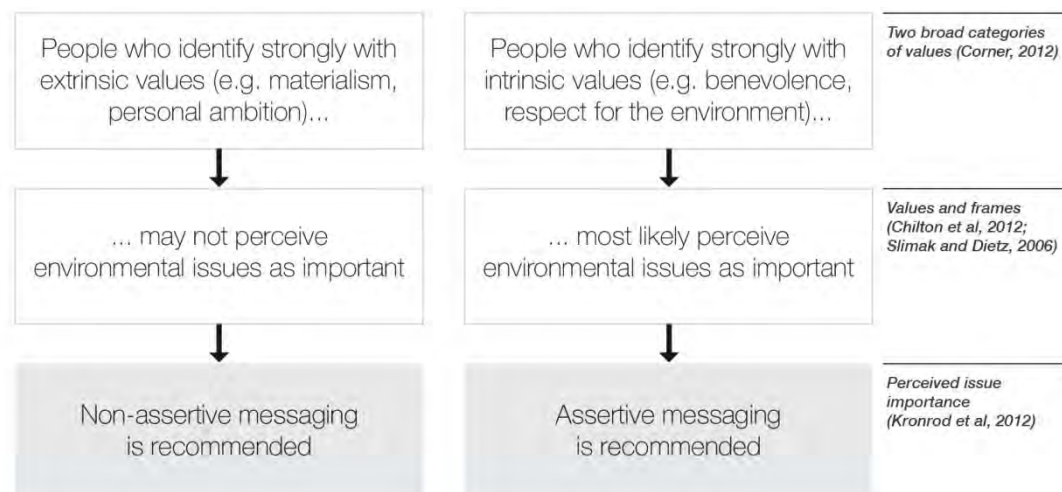
Figure 128. Knowing the audience (based on: Corner, 2012; Chilton et al, 2012; Kronrod et al, 2012; Slimak and Dietz, 2006).

This kind of audience-segmentation can allow us to tailor the language to users (Winter et al, 2007, p.33) and request a specific pro-environmental behaviour without "preaching to the converted" (Lockton, thesis, p.195). More specifically, Kronrod et al (2012, p.2) and Corner's (2012, p.21) "two broad categories of values" inform this project's audience-based approach by "highlight[ing] the role of a key variable that should guide the degree of assertiveness in environmental campaigns: *perceived importance* (of the issue at hand, in the eye of the target audience)". This is because "the persuasiveness of assertive language depends on the perceived importance of the issue at hand: recipients respond better to pushy requests in domains that they view as important, but they need more suggestive appeals when they lack initial conviction." (Kronrod et al, 2012, p.2). This means that "issue importance needs to be carefully assessed (or affected) before the language of effective environmental campaigns can be selected." Examples of assertive and non-assertive messages can be found in Figure 128 below. As Kronrod et al (2012, p.8) explain:

> "… assertive language is more likely to be used in cases where it is in line with already formed attitudes. In contrast, weal and polite requests in this context might be

experienced as irritating […] or "too polite". […] This in turn may reduce compliance, as non-assertive language is not in tune with the issue's perceived importance. The opposite is likely to happen when the issue at hand is not perceived as highly important. In this case assertively phrased requests are not expected and may result in lower compliance due to their excessive forcefulness. It is then the non-assertive, more polite phrasing that may be more persuasive. Less assertive language (e.g., like *Please be considerate and try to print less*") is more likely to stimulate unconvinced consumers, as it recognizes the recipient's attitudinal resistance."

Assertive messages	Non-assertive messages
While washing dishes, you must economize water.	While washing dishes, it's worth economizing water.
Reducing air pollution: everyone must use more public transportation!	Reducing air pollution: everyone could use more public transportation.
Think before you print.	Please print only what you need and save trees.

Figure 129. Examples of assertive & non-assertive messages (adapted from Kronrod et al 2012).

In short, if a tourist perceives the issue at hand as important, then sustainability communications had best employ assertive phrasing because, due to their "linguistic expectations" (Kronrod et al, 2012,p.7) tourists are more likely to respond to an assertive tone of language rather than a gentle, non-assertive phrasing. On the other hand, if a tourist perceives that the issue addressed in the message is not important, then it is suggested to use gentle, non-assertive phrasing. Identified literature explains that "when recipients perceive an issue to be important, they will experience assertive messages as encouragement instead of coercion, and they might feel that a polite invitation fails to recognize their commitment. In contrast, when perceived issue importance is low, an assertive message seems to deny the specific circumstances of the consumer, and this might lower compliance." (Kronrod et al, 2012,p.5).

Furthermore, one can also identify a link between the length of a communication and a message-receiver's values/identity. In other words, the more someone identifies with ST values, the fewer words may be needed (maybe not even a reason why) in a message that aims to influence sustainable behaviour. For example, by observing Figure 130 one could argue that

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the text on the bins, due to its laconic nature, may be mostly suitable for an audience that is "already predisposed to" (McKenzie-Mohr et al, 1999, p.61) behaving in environmentally-friendly ways. As we can see there is not a great effort involved in terms of trying to convince, to persuade; on the contrary, a low number of words merely point to sustainability. But that may be all someone who is already looking for sustainability in their life needs to know.

Figure 130. A laconic message for sustainable behaviour (photo by author).
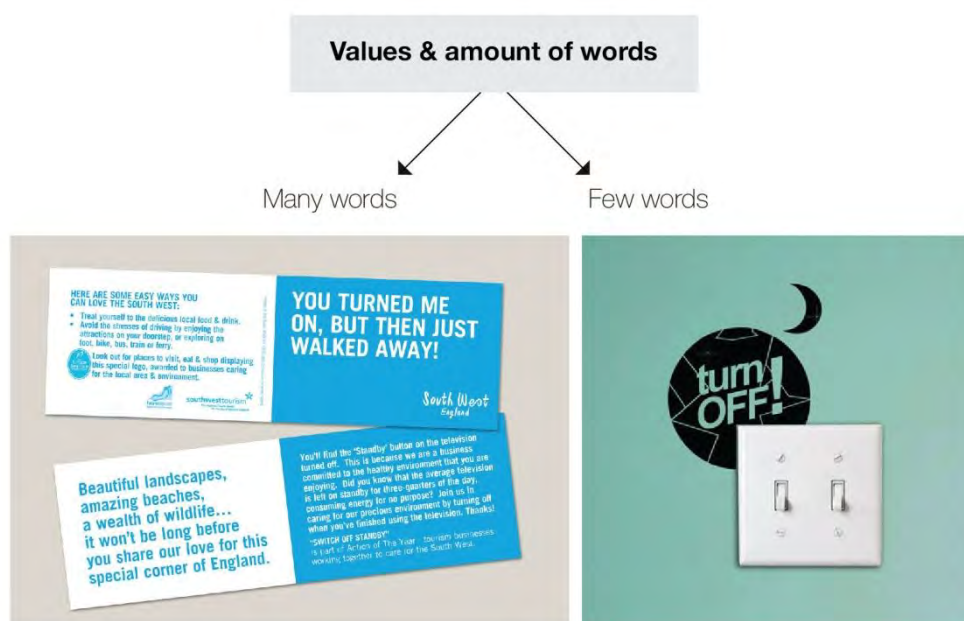
Figure 131. A proposed link between values and words: the values of a target audience can determine the number of words in a message for encouraging sustainable action.

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3.5.10   Messages appropriate for the context of Tourism

Duncan and Martin (2002, p.21) examine the effectiveness of "sanction" and "interpretive" signs in encouraging pro-environmental behaviour of wilderness visitors. They suggest that it may be more appropriate to use "interpretive" messages in the context of tourism because "sanction" messages may not accommodate the "visitor's sense of behavioural freedom" and may diminish the overall touristic experience.

"Interpretation is described by Knudson et al. (1995) as a method for communicating the significance or meaning of something in a way that instils understanding and appreciation." (Knudson et al., 1995. In: Duncan et al, 2002, p.20). "Interpretive messages can explain the rationale behind management regulations and the necessity for them without threatening a penalty for noncompliance. Interpretation can protect the resource by increasing the visitor's awareness of its value, of behaviour that degrades the resource, and of damage that occurs with improper actions" (Dame, 1985. In: Duncan et al, 2002, p.21). Likewise, sanctions are commonly used: "A sanction, as used here, is defined as threatening a penalty (usually a fine) for behaviours considered inappropriate by the managing agency." (Duncan et al, 2002, p.21). "Providing the reasons for a regulation is almost always more effective than simply stating the rule" (Ham, 1992. In: Duncan & Martin, 2002, p.21).
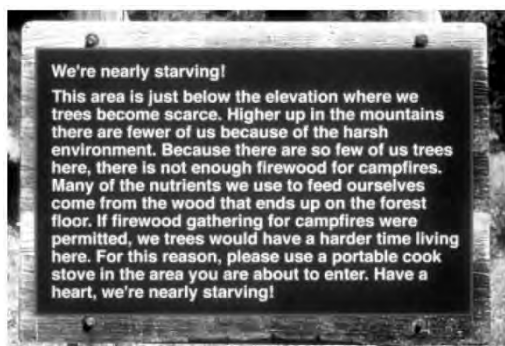
Figure 1—Campfire interpretation sign seen by subjects in slide presentation.

Figure 2—Campfire sanction sign seen by subjects in slide presentation.

Figure 132. Interpretation & Sanction messages (Duncan and Martin, 2002).

According to Duncan et al (2002, p.21), 'freedom' is an important notion, ingrained with human travelling, and the experience of being on holidays consists of an increased "sense of behavioural freedom". Therefore, in order to avoid diminishing the holiday experience of a tourist, behaviour-change interventions may have to accommodate this fundamental aspect.

3.5.11 Kairos: When and Where to place a message?

The right moment in space and time to present information is known as Kairos, and according to literature is an essential factor to successfully influencing an intended behaviour (Payne, 2012; Tools of Change, 2012). As Fogg (2003, p.187) explains, the Kairos principle was used in Ancient Greece[80] by rhetoricians such as Aristotle, Plato and Socrates, who utilised "the opportune moment" to convey their arguments and beliefs.

Similarly, Payne (2012, p.146) argues that "*Where* in time you think about something affects *what* you think about it. The closer in time events are, the more we think about 'actions', and the further away events are the more we think 'in theory'." He goes on to explain that this is called the Construal Level Theory and "[h]appens in four dimensions [and] in any combination:

- here/not here;
- me/not me;
- now/not now;
- definite/not definite."

This finding from the literature review is endorsed by many authors. For example, McKenzie-Mohr et al (1999, p.62) argue: "For prompts to be effective they need to be delivered near the desired behaviour". Similarly, James (2010) explains, "Prompts are most effective if specific and close to where and when the desired behaviour occurs". Sussman et al (2012, p.597) also argue that "Sign placement appears to be as important as sign design in affecting behaviour. A visual prompt that is read immediately prior to the opportunity to engage in the specific behaviour is more likely to be obeyed than one read earlier (Geller et al, 1976). Thus, locating a sign in close proximity to the location where the behaviour is to be conducted (i.e., point-of-decision) increases the likelihood of behavioural compliance (Austin et al, 1993; Burt et al, 1999; Russell et al, 1999)". Likewise, Futerra (2006) advises communicators to remind people about sustainable behaviour "exactly when they're taking the action you want to change." For example, as Winter et al (2007, p.33) illustrate, "signs reminding recreationists to buy their firewood should be placed in areas where tree cutting is prevalent, or where wood may be purchased."[81]

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[80] "In Greek mythology Kairos was the youngest son of Zeus and the 'god of the favourable moment'." (Fogg, 2003, p.187)

[81] On that note, Fogg (2003, p.188) highlights that "The biggest advantage that mobile devices have in persuasion is the ability to leverage the kairos principle [...] as the technology can travel with users wherever they go."

Another example is the case-study by Miller (2012) on designing the interface of washing-machines, which demonstrates that behaviour-change interventions with high-proximity can increase the likelihood of influencing people's behaviour.
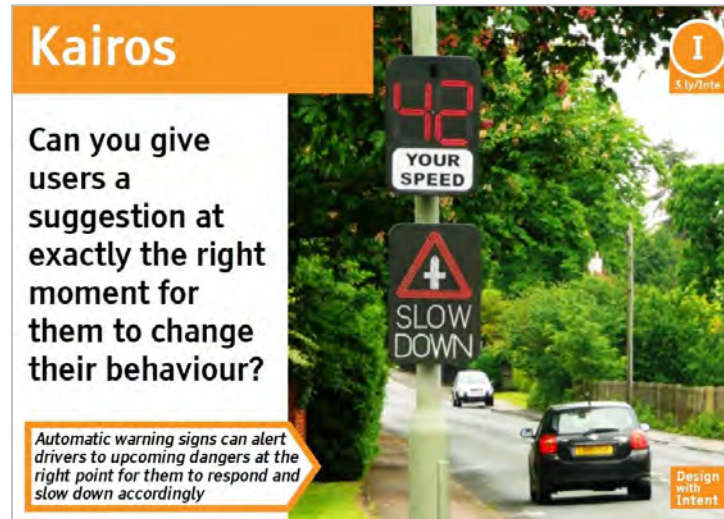
Figure 133. Designers can utilise the "Kairos" factor for influencing human behaviour (image: Lockton, 2013).
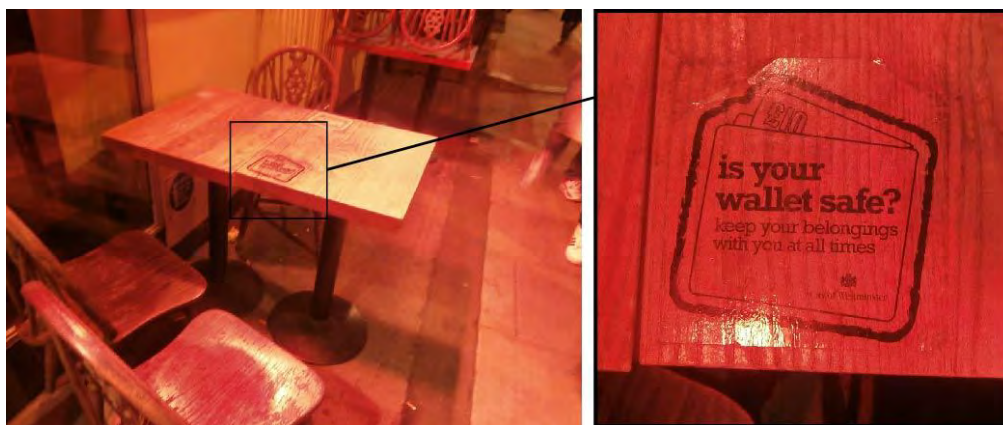
Figure 134. A high-proximity sign at a London pub that reminds customers to keep their wallets safe

(photos by author).

This practice-based research project utilises the 'Kairos' strategy by also taking into consideration Intille's (2003, p.3) four effective components for behaviour-change interventions:

- "Present a simple message that is easy to understand
- at just the right time
- at just the right place
- in a non-annoying way."

Figure 135. Other examples that employ the Kairos strategy (all photos by author).

3.5.12 Mental Badge

According to Payne (2012), James (2010), Goldstein et al (2008b), Walker (2007), and Futerra (2006), the main idea behind the influence technique called 'Mental Badge' is that by addressing people as if they are already someone who cares about the environment, they may start seeing themselves in that way and thus behave consistently with that pro-environmental perception of themselves. As James (2010, p.6) puts it: "Tell people they care about the environment and they might start acting like it". Futerra (2006), a sustainable communication agency, calls this technique "Labelling People" and explains that:

> "If someone undertakes a climate friendly behaviour (whether they intended to or not), you should say *"thanks, you're clearly someone who cares about the climate"*. Next time you want something, say *"if you care about the climate you should..."*. They'll be more likely to pay attention, because they've started wearing a mental badge that says 'I care about the climate'."

Likewise, as Penny Walker (2007), a Sustainable Development consultant, describes:

> "If you name someone as caring, it makes it easier to get them to act in a caring way later. This is called 'symbolic self-completion' in the text-books, and you can see it in the way that animal charities communicate with their supporters – calling them 'dog lovers'. If you think of yourself as a dog lover, then you are more likely to pay attention to messages which explicitly target dog lovers."

The above findings[82] are similar to what Social Psychologists refer to as the "foot-in-the-door" technique (Goldstein et al, 2008b, p.56) and explain that, in some cases, compliance with a behavioural request increases if one starts with a "small, relatively inconspicuous" request that people can initially (and effortlessly) agree to, and then, at the next stage, proceed to a bigger request. For example, according to Freedman and Fraser's 1966 experiment (Freedman et al, 1966. In: Goldstein et al, 2008b, p.55-56), when a set of home-owners in a neighbourhood were immediately asked "to support the Drive Carefully Through Our Neighbourhood campaign by placing a large sign measuring 6 feet by 3 feet and stating 'DRIVE CAREFULLY' on [their] front lawn", only 17% agreed. On the contrary, 76% of another set of homeowners agreed to place the large sign on their front lawn because, a few days before, they had agreed to a smaller

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[82] Notably, one could argue that the 'Mental Badge' technique is also similar to a strategy of manipulation used by politicians and the media, as described by the famous American linguist, philosopher and cognitive scientist, Noam Chomsky. The manipulation strategy is called "Addressing the public as younger children". As Chomsky explains, addressing the public "as if the viewer were a little child or mentally deficient [...] then, because of suggestion, she tends with a certain probability that a response or reaction also devoid of a critical sense as a person 12 years or younger" (see Silent Weapons for Quiet War).

request: "to display a very small, relatively inconspicuous sign in their window that read 'BE A SAFE DRIVER'." As Goldstein et al (Goldstein et al, 2008b, p.56) describe, "after agreeing to the request, the residents came to see themselves as committed to worthy causes such as safe driving [and, thus,] they were motivated to act consistently with this perception of themselves as concerned citizens."

Moreover, as James (2010, p.7) explains touching upon people's sense of (group) identity can encourage desired patterns of behaviour. A good example is the "Don't mess with Texas" anti-littering campaign of the state of Texas (as discussed in Chapter 4: 'Messenger (The principle of Authority)'), that "reduced visible roadside litter by 72%" by using "Texan celebrities […] to target macho men in pickup trucks, who wouldn't listen to 'Please don't Litter'. […] For example, Dallas Cowboys players were featured crushing littered beer cans with their fists and declared 'Don't mess with Texas'. This worked because it fitted with the truckers' sense of identity."
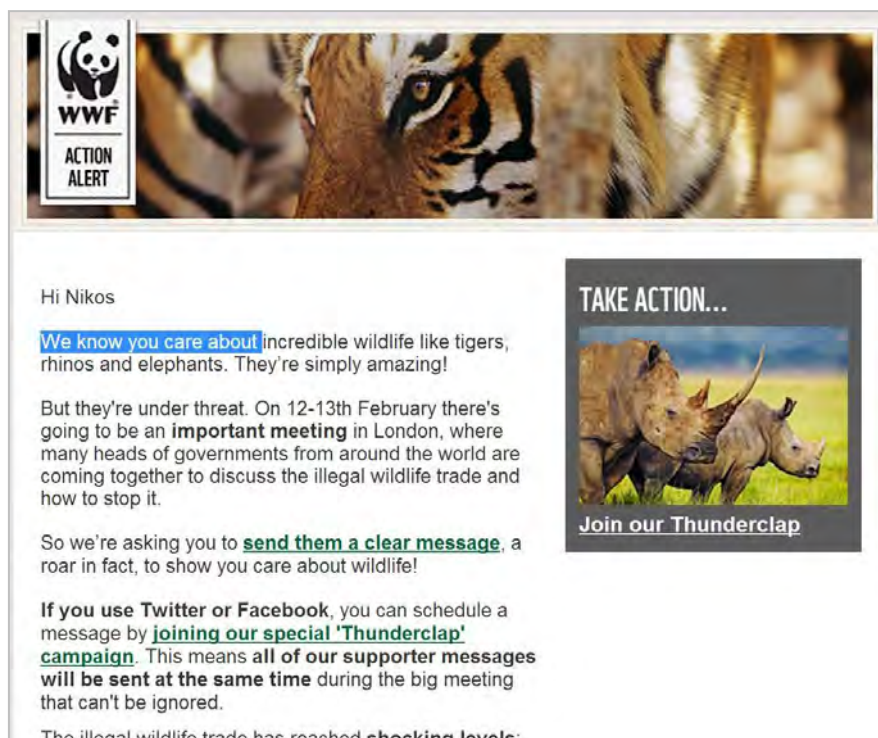
Figure 136. WWF's campaign utilises the 'Mental Badge' influence technique. Due to the suggestion, one comes to think of oneself as someone who cares, thus the likelihood of persuasion increases.

3.5.13   Simplicity and Specificity

"simplification is one mark of real genius"
– Dan Ariely (2009. In: Payne, 2012, p.84).

"Simplicity is an important factor for sign design" (Sussman et al, 2012, p.597). As McKenzie-Mohr et al (1999, p.66) argue, "The prompt should be self-explanatory. Through graphics and/or text the prompt should explain simply what the person is to do (e.g., turn off the lights)". Moreover, extraneous wording is "unlikely to be read" (Sussman et al, 2012, p.598), therefore, to avoid overloading the message with information and to be specific about a sustainable action and clearly articulate the steps needed to be taken, are some of the basic practices for effectively communicating and influencing sustainable behaviour (Cole et al, 1997; Intille, 2003).

Figure 137. Avoid information overload (photo by author).

For example, David Willans from Futerra Sustainability Communications agency (Futerra, 2012) argues about the "value of simplicity" and describes that "All too often, sustainability communications are overly complicated and confused. They set out to achieve too many different objectives. They involve too many compromises to keep the decision makers in a company or brand happy." According to Metcalfe et al (2012, p.506), "Simplicity is important here because our attention is much more likely to be drawn to things that we can understand – to those things that we can easily 'encode'."

Figure 138. "Be responsible out there": the value of simplicity (image source: Futerra, 2012;

image credit: Maxwell A. Davis).
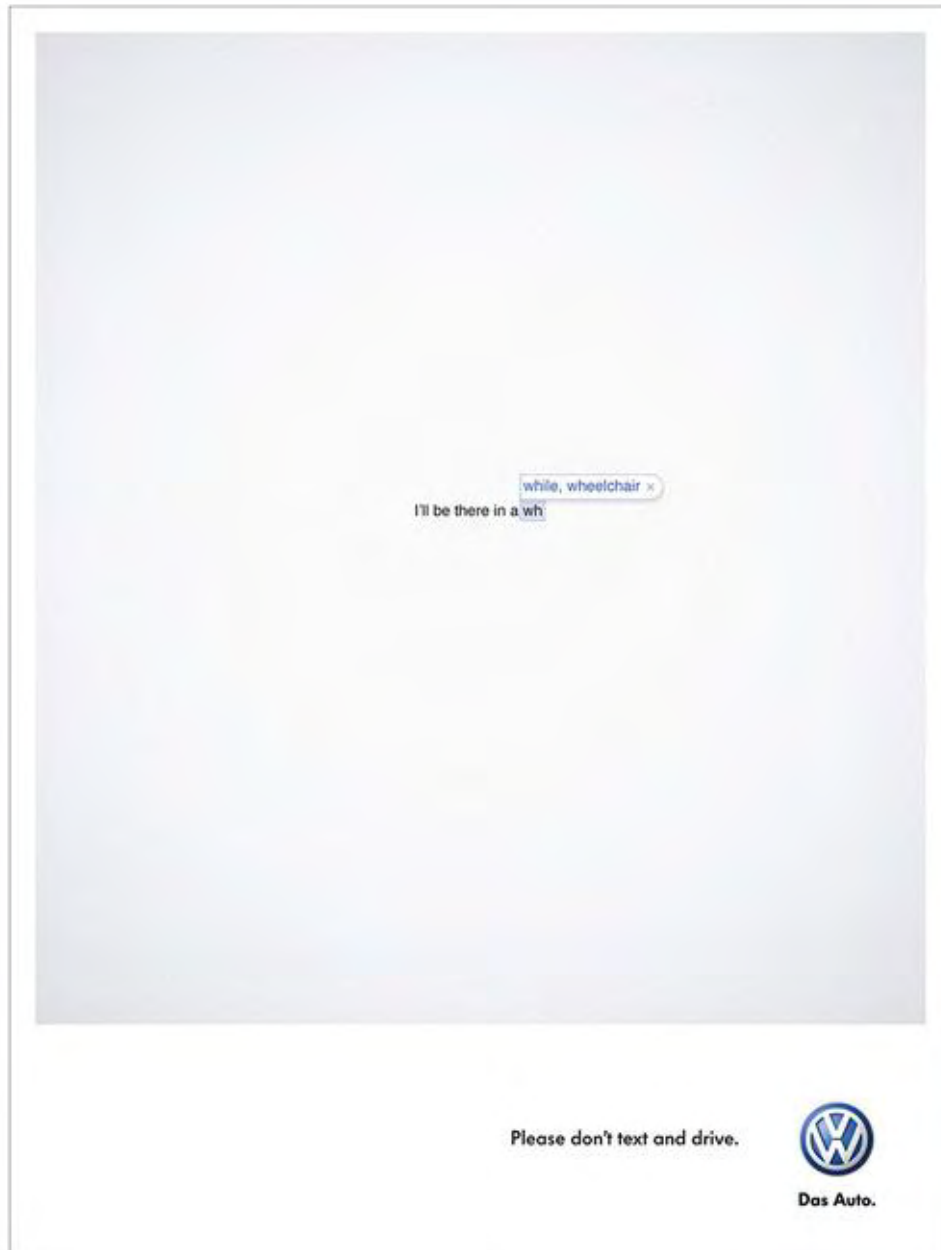
Figure 139. Simplicity in advertising.

Moreover, the 'specificity' parameter of a behaviour change intervention is an equally important aspect that can further behaviour change. Thus, based on literature findings, one can suggest that sustainability interventions should not only be simple but also specific about:

- the steps needed to achieve the target behaviour (James, 2010; Baca-Motes et al, 2013)
- "the setting that most closely [matches] individual's immediate situational circumstances (e.g., 'the majority of guests in this room reuse their towels')" (Lockton, 2012, p.3; see also Chapter 4: 'Norms').

- the target audience that is subject to sustainable behaviour-change (see also Chapter 3: 'Personalisation').

Even though this research project builds upon the strategy of 'Simplicity', nonetheless it acknowledges that "non-explicit prompts ordinarily have little or no impact." (McKenzie-Mohr et al, 1999, p.61). In other words, the design response of this research project utilises McKenzie-Mohr et al's (1999, p.93) advice for communication designers: "ensure that the actions you advocate are clearly articulated." For example, Baca-Motes et al (2013, p.1072) explain that "hotel guests who commit to practice environmentally friendly behaviour would be more likely to do so if their commitment specifies the steps required to achieve such behaviour, as opposed to a more general commitment to 'be good'."
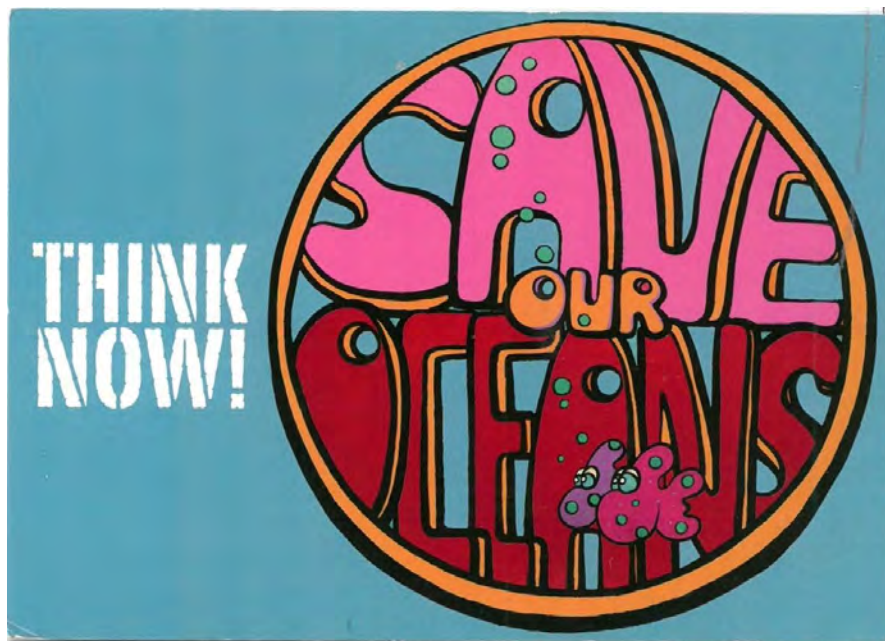
Figure 140. "Think now! Save our oceans": This visual prompt is most unlikely to influence actual behaviour change because it consists of a general call-to-action (a 'do your best' type), and lacks specifically defined steps needed to perform the desired action.

3.5.14 Empowering Communication

According to Sussman et al (2012) people respond better to positively phrased messages than negatively phrased ones (see Figure 141 below), because the latter increase people's reactance, and reduce most people's "feelings of agency and control" (Tools of Change, 2012b). Therefore, McKenzie-Mohr et al (1999, p.66) argue to "encourage people to engage in positive behaviours rather than to avoid environmentally harmful actions (e.g., use prompts to encourage people to buy environmentally friendly products rather than to dissuade them from purchasing environmentally harmful products)."

As Payne (2012, p.136) explains, "a negative worded sign doesn't mean it's threatening or abusive – it simply describes behaviour in terms of what not to do – like the negative injunction 'Please don't leave your campfire' instead of the positive injunction 'Please stay with your campfire'." Notably, according to Sussman et al (2012, p.597), "[c]ompletely eliminating reactance may not be possible, but using a positive and polite message may effectively reduce it."

Positive words	Negative words
You should compost because you'll save in garbage collection user fees.	If you don't compost you'll lose money by having to pay more to have your garbage collected.
Please, buy environmentally friendly products.	Please, don't buy environmentally harmful products.
Please, stay with your campfire.	Please, don't leave your campfire.

Figure 141. People respond better to positively phrased messages (adapted from McKenzie-Mohr et al, 1999, p.90; p.66; Payne, 2012, p.136).

The above finding is endorsed by a number of academic sources in the literature that suggest crafting Empowering Communications by:

- including "clear suggestions regarding what people can do" to take action (McKenzie-Mohr et al, 1999, p.92),
- including "constructive advice and a personal and direct link with the individual." (Corner, 2012, p.48).
- emphasizing that there is light at the end of the tunnel called climate change (James, 2010)

- underlining that people are in control (James, 2010) and that changing their behaviour and following the instructed action will be effective in making a positive impact (Winter et al, 2007, p.40).

Empowering communication for Sustainability

You have the power to bring about change.
This is what you specifically need to do.

There is hope. Changing your behaviour and taking this suggested step will be effective in making things better.
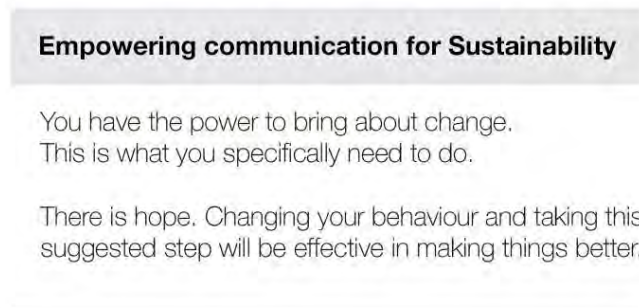
Figure 142. Power to the people (adapted from McKenzie-Mohr et al, 1999, p.92; Corner, 2012, p.48; Winter et al, 2007, p.40; James, 2010).

Last, it is important to note that "sentences in the passive voice are harder to read than sentences in the active voice" (Water Words That Work, n.d.) therefore communication designers need to consider that when crafting their messages (see Figure 142).

Active voice

Most of the residents signed the petition in support of the wetland.

Passive voice

The wetland petition was signed by most of the residents.

Figure 143. Active voice is easier to read (adapted from Water Words that Work).

3.6   Conclusions from Chapter 3

By providing a clear explanation of evidence used to come to this conclusion, this Chapter helped us identify the need to challenge conventional design and adopt sustainable design approaches and, thus, establish this need as a design criterion for this practice-based design research project (see also Chapter 5).

Communication Design is an area of Sustainable Design that can challenge conventional approaches and drive further the agenda of sustainability. This research explores, through a designer's perspective, the way language could influence human behaviour and demonstrates that small changes in words can have a big impact on encouraging sustainable visitor behaviour in Cornwall; a near-costless approach to significantly reducing resource consumption that in turn leads to significant environmental and economic benefits for the tourism industry.

This Chapter illustrated that Communication (especially text-based messages) is by its very nature subject to an individual's interpretation, therefore, when designing sustainable behaviour initiatives, designers need to be aware of the possibility of a gap between designers' intentions and users' actual behaviour. This means that due to the human condition of 'personal interpretation', the medium (text-based signs) for furthering Sustainable Tourism, as carefully crafted as it may be, cannot guarantee a change in tourists' behaviour, but can only hope to be a small part of the solution to climate change.

Moreover, even though this project undoubtly recognises the persuasive power of colours and images, nonetheless, due to time constraints, it focuses on the use of language and words as the principal mechanism for trying to achieve behavioural change, building directly upon the findings from a multi-disciplinary contextual review, and its developed understandings on what it (linguistically) takes to influence human behaviour.

Last, this Chapter identifies the need to emphasise a values-based approach to communicating and influencing sustainable behaviour of tourists visiting Cornwall: an approach that challenges conventional overreliance on Self-Enhancing (extrinsic) values and energises tourists' Self-Transcendent (intrinsic) values.

Thus, a question that arises here is: What kind of words? Which tone of language is appropriate for the context of Tourism?

Chapter 4: Employing contextual factors to influence human behaviour

"The mind shouts: 'Only I exist!'

Deep in my subterranean cells my five senses labour;

they weave and unweave space and time,

joy and sorrow, matter and spirit."

– Nikos Kazantzakis, Ascesis, 1944.

"... logic could be especially useful when you entered it but then left it."

– Umberto Eco, The Name of the Rose, 1984.

4.1   Summary of Chapter 4

Keywords: *System 1, System 2, automatic brain, reflective brain, context, cognition, factual information, KAB model, irrational, Nudge, Choice Architecture, influence, MINDSPACE model, Messenger, Incentives, Norms, Defaults, Salience, Priming, Affect, Commitments, Ego.*

This Chapter describes the two distinct but interrelated systems of the human brain, reflective (System 2) and automatic (System 1) in relation to human behaviour, and emphasises System 1, often called the emotional and/or irrational brain, as the dominant determinant of everyday human decision-making.

Based on recent advances that have allowed researchers to overturn traditional utilitarian assumptions of human behaviour that take for granted a strong, direct link between knowledge, attitude and behaviour (see KAB model, and Theory of Reasoned Action) and view individuals as "rational actors" (Payne, 2012, p.71), this Chapter identifies the need to challenge conventional models to sustainable behaviour because they have been termed as "limited" (Kollmuss et al, 2002, p.246).

Therefore, Chapter 4 provides a comprehensive contextual review on Behavioural Economics and directly builds upon this contemporary field of academic inquiry that places human-irrationality at the centre of its research, deeply acknowledging "hidden quirks, judgemental biases, and apparent irrationalities" as leading factors that characterise human decision-making (Payne, 2012, preface).

This Chapter describes Dolan et al's (2012, p.264) MINDSPACE model "which gathers up the nine most robust effects that influence our behaviour in mostly automatic (rather than deliberate) ways", and provides a better understanding of the subject matter by enriching the model with additional academic theory, case-studies, and illustrated examples. By doing so, this Chapter answers two main questions from Chapter 2 and Chapter 3. This means that this design research employs language and words that derive from contextual factors for influencing human behaviour, thus adopting contemporary approaches to exploring, explaining and changing human behaviour, viewing individuals as "social animals" (Okasha et al, 2012, p.2), in order to address the identified need to help the Cornish Tourism industry to improve its sustainability communications by helping them "[get] at the heart of asking a question using the right words." (Payne, 2012, p.12).

4.2 Our two brains: Kahneman's Dual Process theory

According to Professor Daniel Kahneman's[83] 'Dual Process' theory (Kahneman, 2011; see also Kahneman and Tversky, 1979), human evolution has led the human brain to develop into two distinct but interrelated information processing systems: the *reflective* and the *automatic*; also known as the rational brain (System 2) and the emotional brain (System 1) (Kahneman, 2011; Dolan et al, 2012; Marshall, 2014; see Table 144 below). As Marshall (2014, p.48) describes, "[b]rain scanning has confirmed that these systems are built into the physical architecture of the brain – [System 1] in the cortex and posterior parietal cortex, [System 2] in the amygdala at the base of the brain."

A multi-disciplinary literature review revealed various descriptions for System 1 brain:

- "impulsive, intuitive, associative, and rapid in its response. It is interested in the immediate – anything in the future is irrelevant." (Payne, 2012, p.31)
- "System 1 doesn't stop to think: it just does. It reacts on the fly" (New Scientist, 2013, p.33)
- "driven by emotions (especially fear and anxiety), images, intuition, and experience." (Marshall, 2014, p.49)
- "System 1, the 'automatic mind', processes many things separately, simultaneously, and often unconsciously" (Dolan et al, 2012, p.265)
- "quick to apply mental shortcuts so that it can quickly reach conclusions" (Marshall, 2014, p.48)

In short, Payne (2012, p.151) humorously describes System 1 brain as "your petulant child stamping feet and demanding jelly and ice cream. [...] We often call it our 'gut' reaction."

Additionally, relevant literature review also designates a number of opposite descriptions for System 2 brain:

- "analytical, logical, and encodes reality in abstract symbols, words, and numbers. [It] is slow and deliberative, rationally weighing the evidence and probabilities." (Marshall, 2014, p.48).
- "System 2 is the opposite. It is a thinker, not a doer. It is what we use to solve complex tasks that require attention and reasoning." (New Scientist, 2013, p.33).
- "System 2, the 'reflective mind', has limited capacity, but offers more systematic and 'deeper' analysis" (Dolan et al, 2012, p.265).
- "It's calculating and rule-governed. It's where we 'work things out' – use reasoning. We're much more considerate of future consequences." (Payne, 2012, p.31)

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[83] Nobel Memorial Prize in Economics in 2002.

- "When it comes to decision-making, System 2 generally produces better outcomes. But attention, concentration and reasoning are finite resources." (New Scientist, June 2013, p.33)

System 1 (automatic brain)	System 2 (reflective brain)
Emotional	Logical
Fast	Slow
Irrational	Rational
Effortless (intuitive)	Effortful (systematic)
Unconscious processes	Deeply analytical
Uncontrolled	Controlled
Associative	Rule-based (Deductive reasoning)
Impulsive	Deliberative
Examples of use:	**Examples of use:**
Speaking in your mother tongue	Learning a foreign language
Taking the daily commute	Planning an unfamiliar journey
Desiring cake	Counting calories

Table 144. An adaptation of Kahneman's dual-process theory (2011): Human decision-making is shaped by the co-existence of two distinct but interrelated systems of thought within our brain (table specifically adapted from Dolan et al, 2012).

Notably, System 1 and System 2 are two systems of thought that "are not separate and isolated but rather in constant communication" (Marshall, 2014, p.49). In all human beings, rational and emotional thinking are interlinked, and it is exactly this co-existence that shapes human decision-making (Kahneman, 2011).[84] From a designer's perspective, "understanding and influencing those decision-making processes could be an important component in design for behaviour change." (Lockton, 2013, p.52). Since this is a practice-based research that employs language and words as a medium to behaviour change, it would be beneficial to consider Marshall's (2014, p.48) description:

> "Language operates in both processes, but in the analytic system, it is used to describe and define; in the emotional system, it is used to communicate meaning, especially in the form of stories."

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[84] It could be interesting to watch "The engineering of consent": a BBC (2002) documentary "examining how Freud's ideas about the subconscious were used by various agencies to develop mind control techniques."
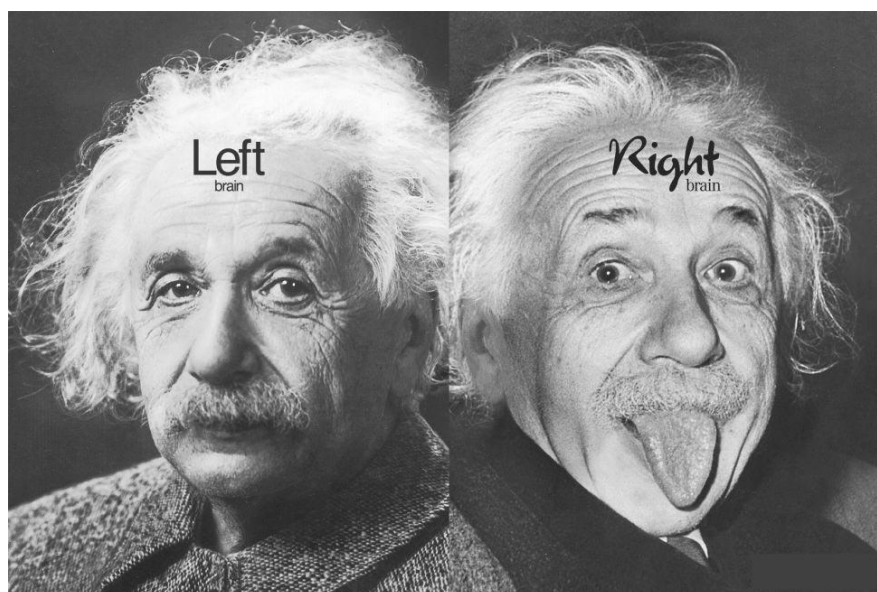
Figure 145. A creative interpretation of the two information processing systems of the human mind (image source: Great-Ads, 2011; image credit: Ad Agency: Shalmor Avnon Amichay/Y&R Interactive Tel Aviv).

Until recent years, it was commonly believed that System 2 brain (logic) was leading human decision-making, with System 1 brain (emotion) being typically ignored by cognitive studies (LeDoux, 1989). But recent advances increasingly question traditional assumptions and place System 1 brain (emotion) at the forefront of everyday decision-making (Ariely, 2008; Thaler and Sunstein, 2008). "In particular," as van der Linden (2014, p. 245) explains, "it has been argued that the 'neocortex' (the rational, higher functioning) part of the brain was developed last in the chain of human evolution and is in fact the least developed part of the brain (MacLean, 1990)."

According to insights from Neuroscience (LeDoux, 1999. In: Marshall, 2014, p.49), "as our analytic systems evolved, the amygdala was allowed to maintain its dominance in decision making because of its ability to rapidly assess threats." In fact, nowadays, a growing number of people start to acknowledge that most of their daily behaviours are automatic and characterised by a lack of conscious presence. Futerra (2006) calls this going through life on "automatic pilot"; according to Pettersen et al (2008, p.116), this means that "[i]n everyday life practice, behaviour is embedded in habits and routines (Jelsma, 2006). Our actions are not always results of processes of conscious cognitive reflection, but may be instinctive, automatic responses to stimuli (Jackson, 2005)." [85] In relation to Sustainable Consumer Behaviour, studies increasingly reveal that "much consumption (and hence contribution to resource use and

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[85] This lack of conscious awareness (aware presence) is characterised by spiritual teachings as the "collective disease" of our times; an obstacle to finding true inner plenitude and contentment (Tolle, 2003). As Haidt (2006) describes, "Learning how to train the elephant is the secret of self-improvement."

emissions) is inconspicuous, habitual and routine, rather that the result of conscious decision-making" (Hall, 2014, p.281). That may explain why "the characterization of the consumer in previous decision-making research as a 'thinking machine', driven purely by cognitions, is a poor reflection of reality." (Shiv and Fedorikhin, 1999. In: Payne, 2012, p.31).[86]

For the needs of a simple interpretation, the relationship between System 1 and System 2 has been illustrated either as "an inner Homer Simpson [and] Mr. Spock" (New Scientist, 2013, p.33) or, more applauded, as "an elephant and a rider" (Haidt, 2006): "The rational rider does his best to steer the emotional elephant. He appears to be in control, though, in reality, a six-ton elephant is going to have the last say." (Marshall, 2014, p.49).

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[86] According to Ariely (2008), irrational behaviour can be defined as decision-making that may not necessarily be in one's own best interest; choosing (what could be considered as) a non-optimal option.

4.3 Two main approaches to influence human behaviour

"Zigong asked: 'Is there any single word that could guide one's entire life?'

The master said: 'Should it not be reciprocity? What you do not wish for yourself,

do not do to others." – Haidt, The Happiness Hypothesis, 2006, p.45.

Human nature is complicated and multi-layered; people do not always react as expected (Pettersen and Boks, 2008, p.107). As Kollmuss et al (2002, p.240) argue, "the answer to the questions: 'Why do people act environmentally and what are the barriers to pro-environmental behaviour?' is extremely complex". Consequently, there cannot be a single strategy for changing human behaviour (Futerra, 2006). Indeed, Lockton (2013, p.40) argues that seeking a single answer to the question: What influences human behaviour? "would require a review of the entire history of psychology, and still not come to a conclusion." [87]

Nevertheless, despite the acknowledged complexity of exploring, explaining and changing human behaviour (Kollmuss et al, 2002, p.240), Professor Kahneman's (2011) Dual-Process theory has allowed researchers to consider "two [broad] ways of thinking about individual behaviour and how to influence it" (Dolan et al, 2012, p.265).

Two main routes to influencing human behaviour

Cognitive approaches	Contextual approaches
Approaches that mostly engage the reflective, rational part of the brain (System 2).	Approaches that mostly engage the automatic, irrational part of the brain (System 1).
Linguistic example: Using this tap for 1 minute, equals 2.5 gallons of water.	**Linguistic example:** Look at all those people turning the tap off (social proof).

desired (sustainable) behaviour

Table 146. Two broad ways of exploring, explaining and influencing human behaviour

(adapted from Dolan et al, 2012; Corner, 2012).

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[87] "What makes us care? Why is it that some people care and others do not? The answers are extremely diverse, complex, and poorly understood. We all have areas that we are more passionate about than others. The question of why we are emotionally involved in one thing but not another is a very profound one." (Kollmuss et al, 2002, p.254).

Dolan et al (2012, p.265) explore the duality of the human mind and suggest two influence models. As they explain:

"The first is based on influencing what people consciously think about. We might call this the 'cognitive' model. The presumption is we will analyse the incentives offered to us, and act in ways that reflect our best interests (however so defined). We can therefore influence behaviour by 'changing minds': that is, through conscious reflection on the surrounding environment. The contrasting model focuses on the more automatic processes of judgement and influence – the way we simply respond to the environment. This shifts the focus of attention away from facts and information, and towards the context within which people act. We might call this the 'context' model of behaviour. The context model recognises that people are sometimes seemingly irrational and inconsistent in their choices, often because of the influence of surrounding factors."

Likewise, Herbert Simon (1990. In: Lockton, 2013, p.40) compares human behaviour to a pair of "scissors whose blades are the structure of task environments and the computational capabilities of the actor." As Lockton (2013, p.40) explains, "The point behind Simon's metaphor is that just as a pair of scissors needs both blades to operate, understanding behaviour requires an understanding of both context and cognition: focusing exclusively on one blade will not give a complete picture. Design is well placed to address 'where the blades cross' – dealing with both context and cognition."
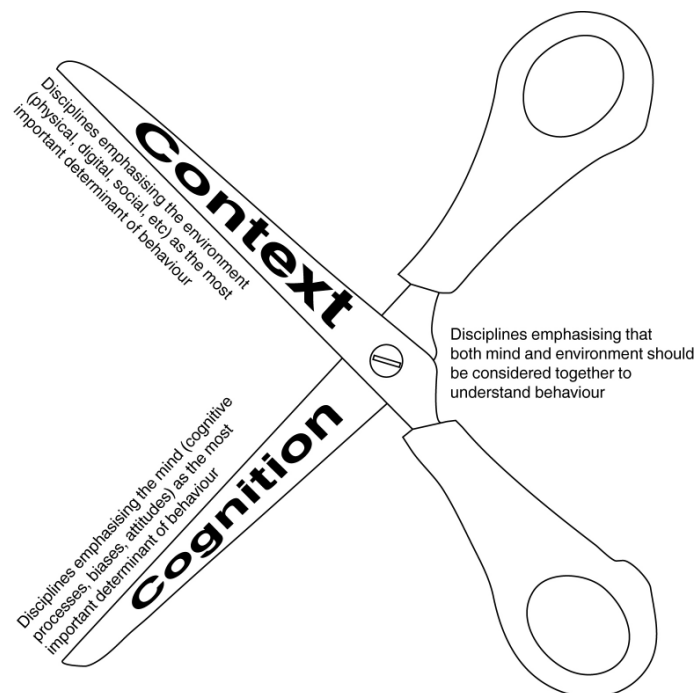
Figure 147. Dan Lockton's interpretation of Simon's behavioural scissors: "simplifying the two blades to be concerning 'context' and 'cognition' respectively" (Lockton, 2013, p.41).

4.3.1 Conventional (cognitive) approaches to behaviour-change: humans as rational actors

> *" 'Changing minds' will lead to 'changing deeds'. "*
> – Lockton, 2013, p.49.

Our traditional understanding of human behaviour is based on the dominating utilitarian assumption that humans are "rational actors" (Payne, 2012, p.71) – an assumption that views "individuals as rational utility maximisers." (Hall, 2014, p.282). More specifically, based on "a conventional neoclassical microeconomic view of consumption" (Hall, 2014, p.284) that takes for granted a direct, linear link between Knowledge, Attitude and Behaviour (KAB model; Kollmuss et al, 2002), conventional models for analysing human decision-making have long assumed that "individuals consume goods and services in free markets with perfect competition and information to decide a course of action that delivers the greatest utility to the individual." (Hall, 2014, p.282). In other words, "Partly owing to the dominance of standard economic models, and the rational choice paradigm in general" (Dolan et al, 2012, p.264), conventional approaches for exploring, explaining and/or changing human behaviour have typically been consistent with the KAB model, emphasising "cognitive rather than contextual factors" (Lockton, 2013, p.42), engaging the *reflective*, rational part of the brain (System 2) (Dolan et al, 2012). This means that until recent years, the default approach to behaviour-change took for granted that individuals are always "governed by a rational self-interest" (Design Council, 2013, p.4), and that after "systematic use of the information available to them", through conscious and logical reasoning, people will always seek the optimal choice in order to maximise their self-interest (Kollmuss et al, 2002, p.246).

 The underlying viewpoint of cognitive approaches, also known as knowledge-deficit approaches, regard people as "empty vessels who will respond appropriately once informed of the facts." (Ward, In: Marshall, 2014, p.123). In short, the knowledge-deficit framework assumes that it is the lack of information available that stops people from taking a specific action, and that if we provide people with information, then people will be willing to process and act on it (Marteau et al, 2000).

4.3.1.1   The Knowledge-Attitude-Behaviour (KAB) model & Ajzen et al's Theory of Reasoned Action (TRA)

Early models for analyzing human decision-making in relation to environmentally-friendly behaviour assumed that "educating people about environmental issues would automatically result in more pro-environmental behaviour" (Kollmuss et al, 2002, p.241) and, thus, appealed to "rational actors" and provided "information to overcome an 'information deficit' and encourage 'rational behaviour'" (Hall, 2014, p.282; see Figure 147 below). This means that "[t]he usual route to behaviour change in economics and psychology has been to attempt to 'change minds' by influencing the way people think through information and incentives" (Dolan et al, 2012, p.264), "assuming that key facts about nutrition, energy use or exercise will lead to better decisions." (Design Council, 2013, p.7).

As van der Linden (2014, p.248) explains, "[t]he idea behind the attitude-behaviour relationship is that the more people know about and understand the connections between their own behaviour and a range of environmental threats, the more likely it is a person will adjust their behaviour accordingly. Such models essentially assume a linear progression from increased knowledge to a favourable change in attitude which in turn is thought to produce a change in behaviour – a framework that has become better known as the Knowledge-Attitude-Behaviour (KAB) model (Kollmuss and Agyeman, 2002)".

Figure 148. The Knowledge-Attitude-Behaviour (KAB) model; an early framework for exploring, explaining and/or influencing environmentally-friendly behaviour (adapted from Kollmuss et al, 2002, p.241).

On that note, Fishbein and Ajzen's 'Theory of Reasoned Action' (TRA) (Fishbein and Ajzen, 1975), "has been the most influential attitude-behaviour model in social psychology" (Kollmuss et al, 2002, p.243), and "one of the most commonly applied rational choice models" (Malhado et al, 2014, p.107) "for explaining attitudes-beliefs related to ecological behaviours" (Kaiser et al, 2003. In: Budeanu, 2007, p.502).

modified from: David Regis D. (1990), http://helios.ex.ac.uk/~dregis/
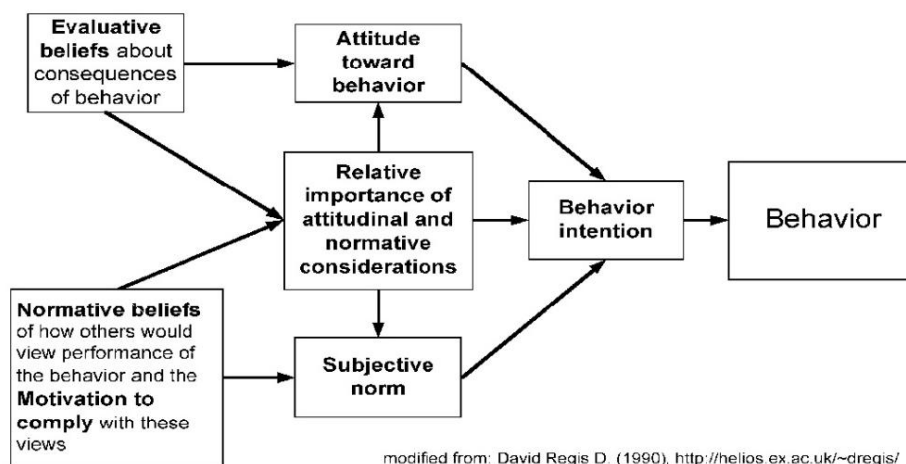
Figure 149. Ajzen and Fishbein's 'Theory of Reasoned Action' (TRA). (Ajzen and Fishbein, 1980, In: Kollmuss et al, 2002, p.243).

"Fishbein and Ajzen maintain that people are essentially rational, in that they 'make systematic use of information available to them' and are not 'controlled by unconscious motives or overpowering desires', neither is their behaviour 'capricious or thoughtless' " (Ajzen and Fishbein, 1980. In: Kollmuss et al, 2002, p.242). Even though the TRA model is a sophisticated progression of the KAB framework,[88] the TRA model still maintains that attitudes – "an individual's evaluation of the possibilities to perform" (Wurzinger, 2003. In: Budeanu, 2007, p.502) – precede behaviour and are one of the main determinants of human behaviour.

Despite the fact that conventional information-deficit models for analysing and influencing pro-environmental behaviour "have had some eminence in explaining and predicting behaviours" (Malhado et al, 2014, p.107), nevertheless, the assumption that "providing new knowledge produces new behaviour" (Marteau et al, 2000, p.69) was soon characterised as:

- "wrong" (Kollmuss et al, 2002, p.241)
- "ineffective" (Weinstein, 2007. In: Malhado et al, 2014, p.107)
- "too rationalist and outdated" (van der Linden, 2014, p.248).[89]

due to, for example, "the consistent finding that patients are poor at adhering to medical advice" (Marteau et al, 2000, p.69).

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[88] Pointing out that "the most important determinant of a person's behaviour is behavioural intent (Ajzen, 1971), which reflects the willingness to perform a certain act and is determined by individual attitudes and subjective norms" (Budeanu, 2007, p.502).

[89] More specifically, "the KAB model has received fierce criticism in recent years" (van der Linden, 2014, p.248), and the TRA model, as Kollmuss et al (2002, p.243) explain, "certainly has its limitations – for example the underlying assumption that people act rationally".

All in all, as Kollmuss et al (2002, p.246) explain, "most pro-environmental behaviour models are limited because they fail to take into account individual, social, and institutional constraints and assume that humans are rational and make systematic use of the information available to them" and also, as Malhado et al (2014, p.107) explain, "because there is frequently a so-called 'attitude-behaviour gap' between the attitudes of an individual and their actual behaviour (Kollmuss and Agyeman, 2002); meaning that, usually, attitudes are not the prior determinant for behaviour."

Approach	Scale	Understanding of decision-making	Consumption is . . .	Tools to achieve sustainable consumption	Dominant forms of governance
Utilitarian (green economics)	Individual	Cognitive information processing on basis of rational utility-maximisation	The means for increasing utility	Green labelling, tax incentives, pricing (including carbon trading), education	Markets (marketisation and privatisation of state instruments)
Social/psychological (behavioural economics/ green consumerism/ABC model)	Individual	Response to psychological needs, behaviour and social contexts	Satisfier of psychological needs; cultural differentiator; marker of social meaning and identity	Nudging – making better choices through manipulating a consumer's environment	Markets (marketisation and privatisation of state instruments)
		Dominant paradigm of "ABC": attitude, behaviour, and choice		Social marketing in order to encourage behavioural change and promote sustainable lifestyles and behaviour	Networks (public–private partnerships)
Systems of provision/ institutions (degrowth, steady-state tourism)	Community, society, network	Constrained/shaped by sociotechnical infrastructure and institutions	Routine habit, inconspicuous rather than conspicuous	Short-supply chains, local food, local tourism	Hierarchies (nation state and supranational institutions)

Sources: Burgess (2012), Gössling and Hall (2013), Hall (2009a, 2011a, 2011b, 2014), Seyfang (2011).

Table 150. Approaches to consumer change (Hall, 2014, p.283).

Figure 151. Examples of conventional behaviour-change interventions based on factual-information provision, solely engaging the reflective, rational part of the human brain (cognitive models) for changing human behaviour. Top image reads: "*1 minute = 2.5 gallons. Humans are using fresh water faster than it can be replaced. Turn off the faucet.*" (Top image source: Duke Sustainability, n.d; Bottom-right image source: Coloribus, 2007; credit: Chick Smith Trott, Advertising agency).

Figure 152. Educating people into behaviour-change through factual-information/knowledge provision: a conventional approach to encouraging sustainable behaviour (image source: Duke Sustainability, n.d.)

Figure 153. Educating tourists into behaviour-change: a typical sign used in hotels, that reads: "5 reused towels = 1 tree planted" (photo by author).

4.3.2   The Gap between Attitude and Behaviour

"What people say and what they do are often two very different things, especially when it comes to issues that have a normative or moral dimension... such as health and sustainability behaviours." – Guardian, 2013a.

The term "attitude-behaviour gap" is a definition for the "cognitive dissonance between understandings of, and responses to, climate change" (Cohen et al, 2014, p.5). Notably, the "possible gap between environmental attitudes and tourist choices [...] is one of the main barriers for progress towards sustainable tourism." (Budeanu, 2007, p.499).[90] As Budeanu (2007, p.502) characteristically explains:

> "Overall, surveys indicate that tourists are largely aware of environmental and social problems caused by tourism and they have positive attitudes towards efforts to reduce them. Despite optimistic views generated by studies of tourist preferences, research indicates that while 70-80% of tourists state their high concerns for eco-social components of holidays, only about 10% convert this concern to purchasing decisions (Chafe, 2005) and, in reality, the majority are reluctant to change their own behaviour in support of sustainability goals (CREM, 2000; Grankvist, 2002; Yan et al., 2006). [...] Thus, an increasingly informed and concerned public, which is beginning to internalise the realities of the climate crisis (Cohen and Higham, 2011), displays few signs of behaviour change (Barr et al., 2010; Higham et al., 2014; McKercher et al., 2010)."

Furthermore, the assumption that "more knowledge will lead to more enlightened behaviour" has been termed "oversimplified" (Tools of Change, 2012b) because "[r]esearch showed that in most cases, increases in knowledge and awareness did not lead to pro-environmental behaviour." (Kollmuss et al, 2002, p.241). "The result is a range of programmes with a firm rationale but minimal impact. Telling people how they should behave has little effect on how they actually do behave. Issues of willpower, motivation, cost and convenience are often more important than a lack of knowledge." (Design Council, 2013, p.7). "For decades, public health laboured under the common sense assumption (supported by the more traditional social psychology literature) that the attitudes we hold determine the behaviours we manifest: if people agree that excessive alcohol consumption is a bad thing, they won't drink to excess. This radical reductionism [...] doesn't work [because it] places disproportionate emphasis on the individual as the locus for change, and removes due consideration of the social and

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[90] "Despite their declared positive attitudes towards sustainable tourism, only 1 in 20 tourists act upon them [...] by buying responsible tourism products, choosing environmentally friendly transportation or behaving responsibly towards destination communities." (Budeanu, 2007, p.499)".

structural influences that surround them." (Guardian, 2013a). "However, access to information and education about climate change and more sustainable forms of consumption has not led to substantially improved sustainability behaviour (Christie, 2010; Gadenne et al., 2011; Ockwell et al., 2010)." (Hall, 2014, p.282). In other words, "The theories, graphs, projects, and data speak almost entirely to the rational brain. That helps us to evaluate the evidence and, for most people, to recognise that there is a major problem. But it does not spur us to action." (Marshall, 2014, p.50).

According to a Demos/Green Alliance report produced for DEFRA (Collins et al, 2003, p.46): "Information does not necessarily lead to increased awareness, and increased awareness does not necessarily lead to action."

attitude (expressions of concern) **behaviour** (doing something about it)

gap

Figure 154. The Attitude-Behaviour gap (adapted from Corner, 2012; Kollmuss et al, 2002; Collins et al, 2003).

Unfortunately, "no definitive explanation has yet been found" by researchers who try to explore and "explain the gap between the possession of environmental knowledge and environmental awareness, and displaying pro-environmental behaviour" (Kollmuss et al, 2002, p.239).[91] As Marshall (2014, p.50) explains, "we have still not found a way to effectively engage our emotional brains in climate change. Even if the rider is fascinated by the article in Scientific American, the elephant has wandered off looking for a banana."

Van der Linden (2014, p.248), having developed a persuasive-communication model that employs contemporary understandings of communicating sustainability, asks: "does knowing make a difference?", and explores the "varying theoretical assumptions concerning the role of knowledge in behaviour" (see also next section). Moreover, Blake's 1999 model for analyzing pro-environmental behaviour (see Figure 155 below) illustrates "three barriers to action: individuality, responsibility, and practicality." (Kollmuss et al, 2002, p.247). "Although his model is very useful in that it combines external and internal factors and describes both in some detail, he does not account for social factors such as familial pressures and cultural norms nor does he explore in more depth the underlying psychological factors (e.g. what are the underlying factors of 'not having time'?)." (Kollmuss et al, 2002, p.247-8).

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[91] As Budeanu (2007, p.502) describes: "One reason for the differences between stated environmental attitudes and actual behaviour may be the social desirability bias (Leggett et al., 2003), which entice people to answer positively to questions related to concerns about sensitive subjects such as environmental protection (Chung and Monroe, 2003)."
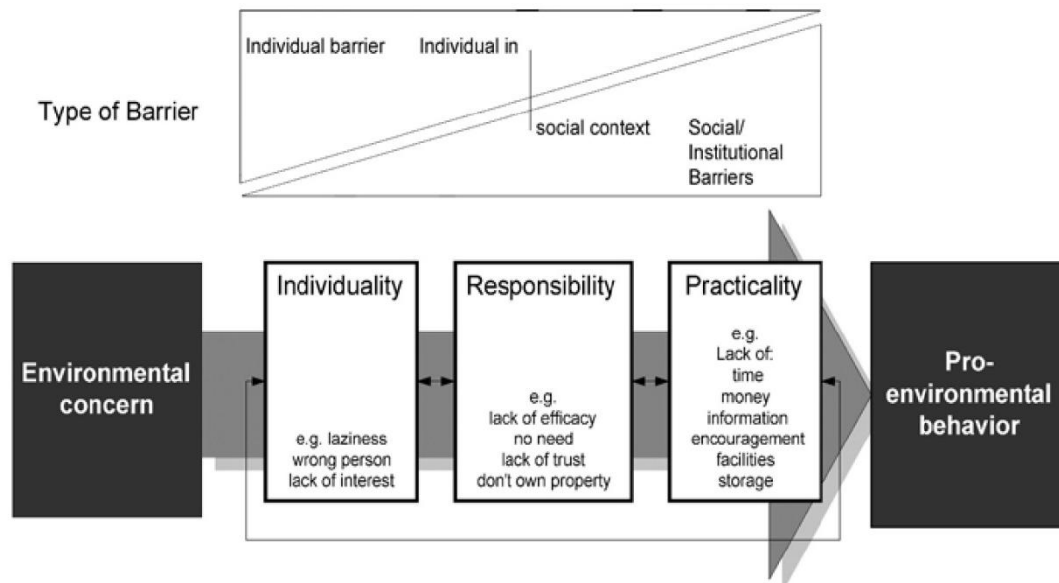
Figure 155. Three barriers to environmentally-friendly behaviour (Blake, 1999 In: Kollmuss et al, 2002, p.241).
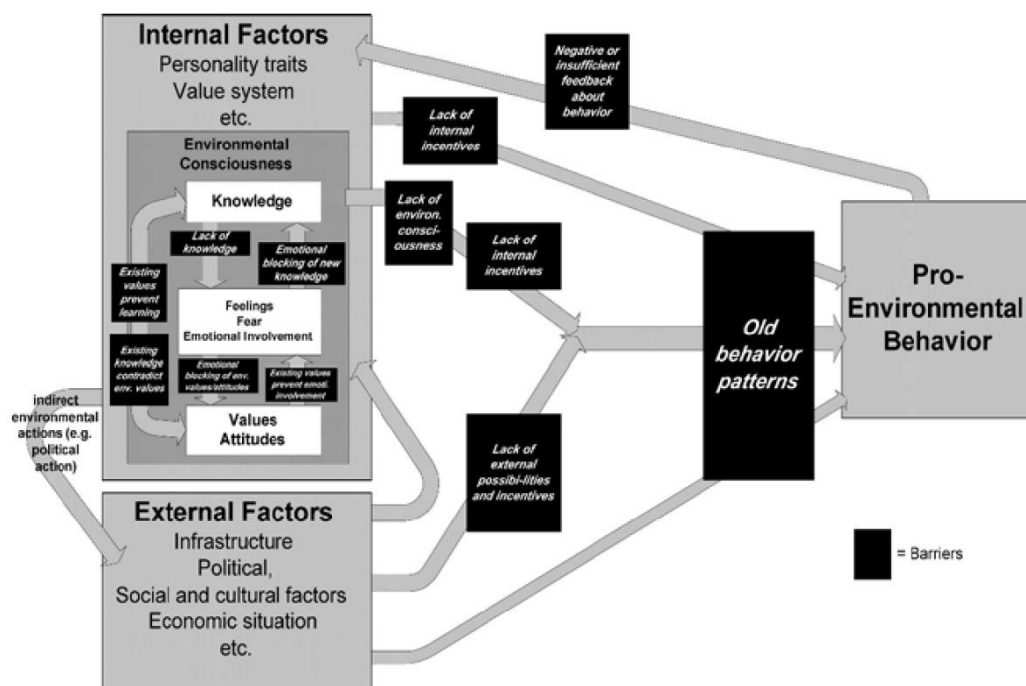
Figure 156. A model for analyzing environmentally-friendly behaviour (Kollmuss et al, 2002, p.257).

Contemporary models for analysing and influencing environmentally-friendly behaviours, "do not attribute a direct relationship to environmental knowledge and pro-environmental behaviour" (Kollmuss et al, 2002, p.256); one reason may be because "much research has found that attitudes may *result from behaviour* rather than necessarily preceding it" (Lockton, 2013, p.49).

Kollmuss et al (2002, p.239) discuss some selected theoretical models that try to provide an answer to "what shapes pro-environmental behaviour". As they explain, each model has "some validity in certain circumstances. This indicates that the question of what shapes pro-environmental behaviour is such a complex one that it cannot be visualized through one single framework or diagram." More specifically, Kollmuss et al's model (2002, p.256) suggests that "[m]any conflicting and competing factors shape our daily decisions and actions" and, thus considers internal as well as external conditions as factors that shape decision-making. For example, in a complex called *environmental consciousness*", Kollmuss et al (2002, p.257) include intellectual understanding but also emotional involvement as important factors that influence behavioural patterns.

Based on that idea, new models for communicating sustainability have emerged that keep clear from conventional approaches for influencing sustainable behaviour change. For example, van der Linden's (2014, p.262) conceptual framework for designing persuasive climate-change communications integrates "cognitive, experiential as well as normative dimensions of human behaviour". Van der Linden's (2014) model acknowledges the importance of "cognitive-analytical" approaches, but "in order for communication to be persuasive" (p.264) cognitive influences need to be utilised alongside additional aspects of human behaviour, such as "affective-experiential" and "social-normative" influences (p.244).
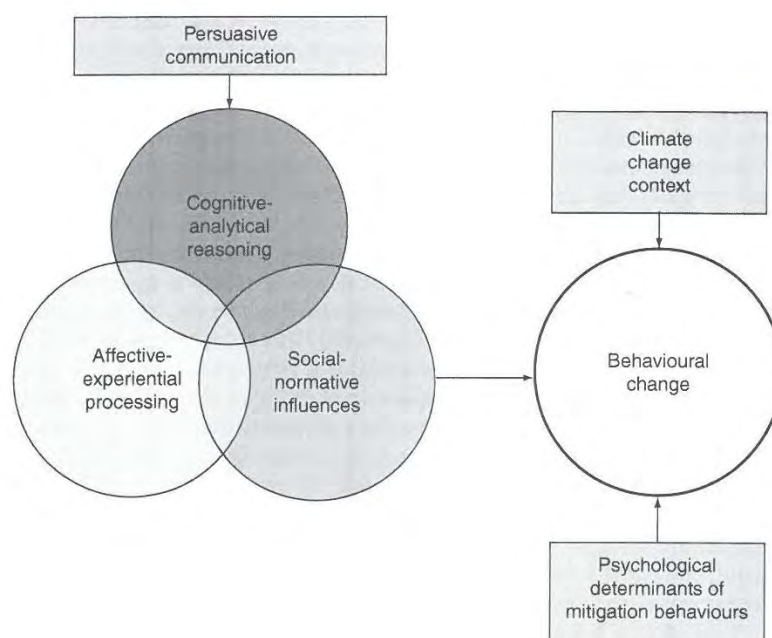
Figure 157. Van der Linden's (2014, p.262) "integrated framework" for communicating and

influencing sustainable behaviour.

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4.3.2.1 Is knowing, not important?

Despite the acknowledged poor effectiveness of information-deficit models for analysing and influencing pro-environmental behaviour (Kollmuss et al, 2002), nonetheless, as Malhado et al (2014, p.108) argue, "the impact of information on behavioural change is still being seen controversially." As they explain, on the one hand, some still "defend the role of information in building a bridge between attitude and behaviour, especially in respect to environmental issues"; on the other hand, others "argue that the provision of information is not sufficient to lead to a behavioural change which, in isolation, would close this [attitude-behaviour] gap".

"Ironically, one of the best proofs that information does not change people's [behaviour] is that science communicators continue to ignore the extensive research evidence that shows that information does not change people's [behaviour]. The vast majority of scientific communicators is still in the form of data and graphs, and the main attempt to make it more appealing is to jazz it up with three-dimensional animated graphics and charts that whizz round, spin round, or buldge out." (Marshall, 2014, p.124).

Nevertheless, "it would be erroneous to suggest that the role of knowledge is outdated or not important" (van der Linden, 2014, p.248). Thus, this thesis does not advocate that there is no value in the provision of information as an approach to sustainable behaviour, "[r]ather it highlights that the capacity for behaviour change needs to be understood in a much wider social, political and institutional context." (Hall, 2014, p.281). This means that providing tourists visiting Cornwall with key facts about environmental and social concerns is not something pointless or worthless. But based on findings from contemporary academic literature "knowledge is a necessary but not sufficient condition for behavioural change" (van der Linden, 2014, p.248). Therefore, behaviour-change initiatives that remain only on an information/knowledge-provision level will likely be limited reaching their goal: "Information provision, whether through advertisements, leaflets or labelling, must be backed up by other approaches" (Collins et al, 2003, p.46) "that need to be used together with a fundamental examination of the socio-technical system itself if there is to be a sustainable post-carbon transition" (Gossling et al, 2012; van den Bergh and Kemp, 2008, In: Hall, 2014, p.293).

Thus, this research strongly prompts Communication Designers to refrain from designing behaviour-change interventions that rely solely on "cognitive-information- and knowledge-based factors", but, as van der Linden (2014, p.263-265) argues, to explore combinations between "cognitive, experiential and normative aspects of human behaviour in their message design".

Here, it is important to distinguish between the different types of information that exist, and clarify which one is the focus of this research: according to Van der Linden (2014, p.248) there are "three converging types of environmental knowledge, namely; declarative knowledge (i.e. factual knowledge), procedural knowledge (i.e. knowledge of appropriate courses of action) and effectiveness knowledge (i.e. knowledge of how effective each course of action is)." Therefore, when this project refers to knowledge/information-provision, it refers to factual information provision (declarative knowledge).
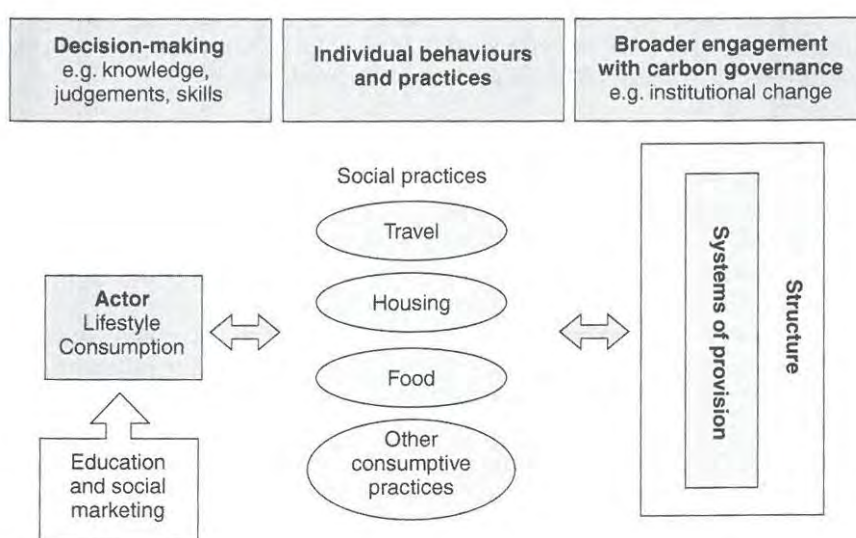
Figure 158. "Dimensions of carbon capability" (Hall, 2014, p.281).

4.3.3 Cognitive approaches to Sustainable Tourism & the Cornish tourism industry (CoaSTies)

Describing behavioural insights in their research-paper titled "A room with a viewpoint: using social norms to motivate environmental conservation in hotels", Goldstein et al (2008, p.480) explain that the kind of messages "most commonly used by hotel chains [are] messages that focus on the importance of environmental protection".

Notably, this insight from the literature review was also confirmed from conducting primary, Human-Centred Design research within a spectrum of Cornish tourism businesses, most of them being accommodation-providers, members of CoaST network (see also Chapter 6: 'Research Methodology'). Insights from in-depth analysis of personal interviews, focus-groups, and observation of their business context, and also findings from secondary research, helped the author understand that Cornish accommodation-providers (members of CoaST's

One Planet Tourism Network) most commonly attempt to encourage sustainable behaviour by focusing tourists almost exclusively on the importance of environmental conservation, providing their guests with more information, assuming that, for example, key facts about energy or water use will lead them to better, more sustainable decisions during their stay in Cornwall.

This means that, even though CoaSTies do take an active role in changing their industry's conventional practices (thus, taking an active role in furthering Sustainable Tourism), nevertheless, when it comes to communicating sustainability and encouraging sustainable behaviour from their guests, they still follow the conventional (cognitive) route to human behaviour-change: factual information/(declarative) knowledge provision, engaging exclusively the rational brain (System 2), in order to educate guests into sustainable behaviour; an approach that, as discussed in previous sections of this Chapter, has limited effectiveness (Dolan et al, 2012).

As a matter of fact, science-based alternative approaches that address those limitations do exist but, nevertheless, the hospitality industry does not seem to utilise what has been described as *the most basic social-science insight* related to their communications with their guests (Goldstein et al, 2008b). Ironically, in Goldstein et al' s (2008c) words: "If the hotel industry did so, it would save millions of dollars every year." Similarly, as Goldstein et al (2008a, p.480) argue, these alternative persuasive messages are "messages that we have never seen used by hotel chains".[92] According to literature, one important reason that the hospitality industry is not utilising persuasive-communication insights is not necessarily because they do not wish to increase their environmental performance or reduce their operating costs, but simply because, as Goldstein et al (2008b, p.4) put it, "persuasion [is] lying dormant in the pages of academic journals". This means that, first, all the fascinating research on communicating and influencing sustainable behaviour remains buried in academic literature, and, second, not every accommodation-provider in Cornwall has spare time to 'dig out' and familiarize themselves with the latest academic research on persuasive communication.[93] This argument was also supported by primary insights from this research project; more specifically, when the author of this research explained this project's distinguished behavioural insights during personal interviews, focus groups and Sandpit discussions, research participants became aware of the science of persuasion and demonstrated an interest in utilising the theory in their business context (see also Chapter 6: 'Focus group B: Cultural Tourism Sandpit, at Falmouth University').

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[92] Moreover, this study "highlights the benefits of employing social science research and theory – rather than business communicators' hunches, lay theories, or best guesses – in crafting persuasive messages." (Goldstein et al, 2008c).

[93] Notably, this is an opportunity for Design and also where the author's role as a design researcher comes into play.

Figure 159. Typical messages used by the tourism industry to encourage sustainable behaviour. Educating guests into behaviour-change through factual-information/knowledge provision has limited effectiveness (top photo by author; middle image: Nudge, 2011; bottom image credit: Dan Mckay).

Notably, this points to the fact that despite Cornish accommodation-providers' attempts to communicate and encourage sustainable touristic behaviour, their current way of asking for behaviour change may have a firm rationale but, most likely, limited effectiveness.

4.3.4 Contemporary (contextual) approaches to behaviour-change: humans as social animals

> *"Ladies and gentleman, Homo economicus has left the building."*
> – Guardian, 2013a.

As Kollmuss et al (2002, p.241) argue, "changing behaviour is very difficult. Anyone who has ever tried to change a habit, even in a very minor way, will have discovered how difficult it is, even if the new behaviour has distinct advantages over the old one." "But", as Rory Sutherland (In: Payne, 2012, preface) explains, "the task has been made worse by some spectacularly wrongheaded assumptions about human behaviour which have infected business and government decision-making; in particular the idea that people are hyper-rational, endlessly cogitating individuals who make optimal choices regardless of how and when those choices are presented."

As previously discussed, the limitations of traditional behaviour-change approaches of *informing people into change* have become apparent (Dolan et al, 2012, p.273). According to Hall (2014, p.284), "[t]he failure of neoclassical economic models to significantly increase levels of sustainability behaviour has led to the realisation that behaviour does not change simply because of better quality information (Whitmarsh, 2009; Whitmarsh et al., 2009)." According to Johnson, "Recent advances in behavioural economics, cognitive neuroscience, network theory and social psychology more generally have overturned our common sense understanding of human behaviour. The rational, autonomous, self-aware agent acting in his own self-interest according to static preferences has faded as we realise that behaviour is largely irrational, unconscious and driven by external contexts." (Guardian, 2013a).[94]

Thus, based on the above findings from the literature review, a recognised need arises to challenge the conventional over-reliance to cognitive approaches and employ contemporary, contextual approaches to changing human behaviour (Hall, 2014, p.281).

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[94] "Physical and social contexts affect people's behaviour – from the simple layout of environments, to the affordances and constraints designed into digital systems, to the structure of social situations." (Lockton, 2013, p.56).

4.3.5   The field of Behavioural Economics

'Behavioural Sciences' and particularly 'Behavioural Economics' (BE) is a contemporary field of academic inquiry that challenges conventional economic models for exploring, explaining and changing human behaviour that are predominantly grounded on the procedures of the rational and consciously-engaged mind (Cialdini, 2007; Thaler and Sunstein, 2008; Ariely, 2008; Kahneman, 2011; Goldstein et al, 2008a; 2008b; Dolan et al, 2012).

BE seeks to apply evidence from various academic disciplines, such as Social Theory, Cognitive Psychology, and Neuroscience, with a desire to understand the underlying reasons of why humans behave the way they do (Dolan et al, 2012), and how we actually engage with the world around us (Payne, 2012). When it comes to BE and changing human behaviour, "[c]onvention no longer rules." (Design Council, 2013, p.4). This means that their contemporary understanding of human behaviour views individuals as "social animals" (Okasha et al, 2012, p.2) rather than "rational actors" (Hall, 2014, p.282), recognising that:

- first, "our individual behaviour cannot be separated from our social context" (Corner, 2012)

- secondly, that "individuals have bounded rationality (Conlisk, 1996) and often engage in satisficing behaviour (Simon, 1959, 1965), i.e. an option that satisfies most needs but is not an optimal solution" (Hall, 2014, p.284).

BE tries to build new improved models of human behaviour that reflect more accurately the way people actually engage with the world around them. Their new theoretical knowledge addresses limitations from traditional behaviour-change approaches by not only recognising that "people often make decisions intuitively, effortlessly and with little conscious awareness" (Design Council, 2013, p.4), but also by placing this 'human irrationality' at the centre of its inquiry, and acknowledge "hidden quirks, judgemental biases, and apparent irrationalities" as leading factors that characterize human decision-making (Payne, 2012, preface). In short, BE's main idea is that: sometimes we make decisions that are against our own best interest; sometimes we behave "irrationally" (Ariely, 2009). Notably, BE is increasingly rising in popularity and it is even "starting to become a foundation for policy-making in the UK" (Dolan et al, 2010. In: Dolan et al, 2012, p.503).[95]

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[95] As Hall (2014, p.284) describes: "In the United Kingdom, nudging has become a centre-piece of the Cameron coalition government that came to power in 2010, with David Cameron reportedly making *Nudge* (Thaler and Sunstein, 2008) obligatory reading for his colleagues before the election, while in the US Sunstein became head of the Office of Regulatory Affairs in the Obama administration (Burgess, 2012)."

Behavioural Economics' psychosocial approaches to influencing human behaviour are largely, but not exclusively, *contextual* (based on "changing contexts") (Dolan et al, 2010, p.8). As Hall (2014, p.284) explains, their basic strategy, often termed 'nudging', and/or 'choice architecture', focuses on reconfiguring "the context, process and environment in which individuals make decisions and, in doing so, they exploit 'cognitive biases' to manipulate people's choices [and] encourage beneficial decision-making by consumers, such as reductions in emissions." Consequently, another reason why this design research employs 'nudging' as an approach to behaviour-change is because "approaches based on 'changing contexts' – the environment within which we make decisions and respond to cues – have the potential to bring about significant changes in behaviour at relatively low cost" (Dolan et al, 2010, p.8).

A foundational viewpoint of BE is that when it comes to human behaviour it is not necessarily the quality of information engaging our rational, reflective brain (System 2) that leads to change, but "Numerous other biases and flaws are also at play" (New Scientist, 2013, p.34) "leading to behaviours that sometimes appear self-defeating." (Design Council, 2013, p.4). As New Scientist (2013, p.34) explains, "We are swayed by social pressures and will often follow the herd instead of making decisions to suit ourselves." For example, even though today there is a huge availability of information that stresses the damaging consequences of smoking for human health, still there are people that choose to smoke; based on the teachings of BE, an important factor that may influence this behaviour is because an individual's peers/friends smoke as well, and so they use smoking as a medium to feel "normal" and to "belong" in that group.

The above argument is supported by community-based social marketing which argues that "individual behaviours cannot be separated from their social context" (Corner, 2012). Environmental campaigns based solely on information provision have proven to be ineffective, and that is one of the reasons that led to the "development of community-based social marketing specifically for sustainability" (Kollmuss et al, 2002, p.240). "Community-based social marketing is an attractive alternative to information-based campaigns. Community-based social marketing is based upon research in the social sciences that demonstrates that behaviour change is most effectively achieved through initiatives delivered at the community level, which focus on removing barriers to an activity while simultaneously enhancing the activities benefits." (McKenzie-Mohr and Smith, 1999, p.153-154).

A summary of conventional behaviour-change approaches:
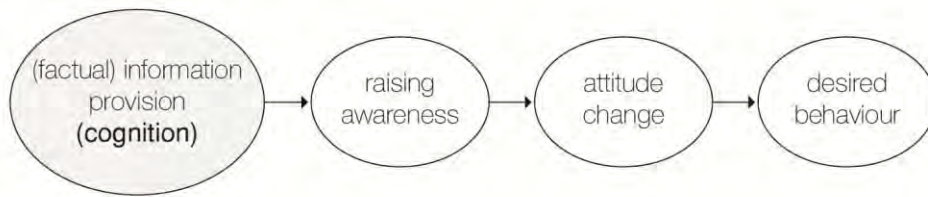
A summary of contemporary behaviour-change approaches:

Figure 160. A modest figure summarising conventional and contemporary approaches to changing human behaviour (adapted from literature review).

4.3.6   Influencing behaviour through Dolan et al's MINDSPACE model, and Cialdini's Six Principles of Persuasion

Behavioural Economics (BE) is a contemporary discipline that draws upon numerous disciplines, such as Social Science, Neuroscience and Cognitive Psychology, and their developed understandings of what influences human decision-making, in order to build new improved models of human behaviour that reflect more accurately the way people actually engage with the world around them. Over the course of many years, BE experts such as Thaler and Sunstein (2008), Cialdini (2007), Ariely (2008), Dolan et al (2012), have identified a large number of contextual factors that "operate largely, though not exclusively, on the automatic system" and influence the way people behave (Dolan et al, 2012, p.273). This research utilises Dolan et al' s MINDSPACE model (2012, p.273): "an accessible summary of the academic literature [...] which gathers up the nine most robust effects that influence our behaviour in mostly automatic (rather than deliberate) ways." (Dolan et al, 2012, p.264). As Metcalfe et al (2012, p.503) explain, the acronym MINDSPACE "is a mnemonic for the contextual factors that impact on behaviour (i.e. messenger, incentives, norms, defaults, salience, priming, affect, commitment, and ego)."

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Table 1
The MINDSPACE framework for behavior change.

MINDSPACE cue	Behaviour
Messenger	We are heavily influenced by who communicates information to us
Incentives	Our responses to incentives are shaped by predictable mental shortcuts such as strongly avoiding losses
Norms	We are strongly influenced by what others do
Defaults	We 'go with the flow' of pre-set options
Salience	Our attention is drawn to what is novel and seems relevant to us
Priming	Our acts are often influenced by sub-conscious cues
Affect	Our emotional associations can powerfully shape our actions
Commitments	We seek to be consistent with our public promises, and reciprocate acts
Ego	We act in ways that make us feel better about ourselves

Figure 161. This research project directly builds upon Dolan et al's (2012, p.266) MINDSPACE model: "Nine most robust effects on [human] behaviour".
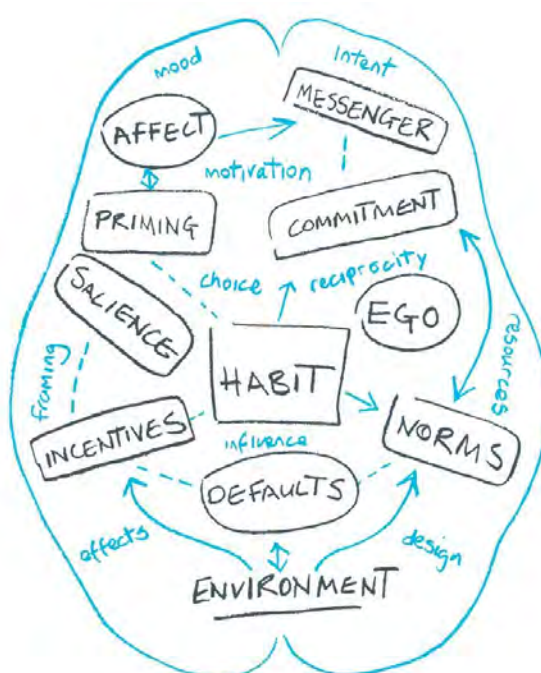
Figure 162. Contextual factors engage the human mind (image source: Cabinet Office and Institute for Government, 2010).

Below, an informative diagram from the Cabinet Office and Institute for Government (2010, p.80) can be found, "presenting the concepts related to the elements in MINDSPACE. The solid lines indicate that a given psychological process is considered as being an essential part (as a direct consequence, cause or manifestation) of the principle in question (e.g. framing is making something salient, while salience causes recency effects). The dotted lines are secondary connections, while the red/orange/yellow colouring of the circles denotes whether the factor is a primary drive (e.g. affect) or whether it is more applied (e.g. defaults). The red grouping lines denote the boundaries of MINDSPACE."

Socially-grounded

Psychological reactance

Perceived intent / motivation

Association / halo effect

Positive self-identification

Desire to preserve self-image

Over-optimism bias / superiority bias

Hot-cold empathy gap

Excitation transfer

Messenger

Goal-setting

Commitment

Reciprocity

Self-serving bias

Defensive attribution

Fundamental attribution error

Multi-channel encoding

Affect

Mere-exposure effect

Need for consistency

Desire for fairness (procedural utility)

'Ego'

Hedonic adaptation

Mood congruence

Impairment of cognition and adaptation

Formal authority

Implementation intentions

Fear of loss of face

Pygmalion effect

Subliminal effects

Priming

Anchoring / primacy error

Choice overload

False consensus effect

Anonymity / Spotlight effects

Mental accessibility

Recency effects

Life stage changes

In-group / out-group effects

Diffusion of responsibility

Self-efficacy

Confirmation bias

Salience

Habit

Social influence

Norms

Peak effects

Ambiguity effect

Declarative norms

Social proof / herd behaviour

Impact / durability bias

Framing

Mental accounting

Endowment effect

Loss aversion

Defaults

Range of practical barriers

Reference point / zero price effect

Rewards crowd out intrinsic motivations

Status quo bias

Market provision

Resources

Hyperbolic discounting

Incentives

Prices

Environment

Infrastructure

Scarcity effects

Overweighting of certainty / small risks

Price signals value

Formal sanctions

Design (e.g. as choice editing)

Reinforcements

Internally grounded

Environment grounded

Key to nodes

Primary drive

Practical intervention

Additionally, this project directly builds upon Cialdini's (2001;2007) six (6) more general but "universal" principles for influencing human behaviour (see Table 163).

Cialdini's Six Fundamental Principles of Persuasion

The principle	The application
1. **Reciprocity:** People repay in kind	Give what you want to receive.
2. **Scarcity:** People want more of what they can have less of.	Highlight unique benefits and exclusive information.
3. **Authority:** People defer to experts.	Expose your expertise; don't assume it's self-evident.
4. **Consistency:** People align with their clear commitments.	Make their commitments active, public, and voluntary.
5. **Liking:** People like those who like them.	Uncover real similarities and offer genuine praise.
6. **Consensus (social proof):** People follow the lead of similar others.	Use peer power whenever it's available.

Table 163. Fundamental principles of persuasion (adapted from Cialdini, 2001; 2007).

In the following sections, the author discusses in detail the elements of the MINDSPACE model and Cialdini's Principles, in order to form a solid basis for the theoretical as well as the practical side of this research. Here, it is important to note that the following sections are not based on a single source of information but draw upon multi-disciplinary findings from an extensive literature review, bringing together additional academic theory, case-studies and illustrated examples that aim to further our understanding of, and thus the author's ability to explain, Dolan et al's model and Cialdini's Six Fundamental Principles of Persuasion, in relation to furthering sustainable touristic behaviour.

4.3.6.1 Messenger (The principle of Authority)

The science tells us that "we are heavily influenced by who communicates information" (Dolan et al, 2012, p.266); an insight from the areas of Behavioural Economics, Social Marketing, and Economic Psychology that describes the tendency of people to be "affected by the perceived authority of the messenger (whether formal or informal)." (Cabinet Office and Institute for Government, 2010, p.19).

Here, it would be beneficial to first examine: What determines our perception/interpretation of everyday life? To begin with, let's examine the definition of perception (Oxford Dictionaries, 2015):

"**Perception:** The way in which something is regarded, understood, or interpreted."

Marshall (2014, p.80; p.143) describes the theory of sociologist Erving Goffman, who argues that an individual's perception of reality is formed by "schemata of interpretation"; also known as "frames": a series of mental layers that "are constructed of our values, our life experience, and the social cues of the people around us". Through those layers humans interpret something/someone as "relevant, important, familiar, or rewarding" and, thus, through those layers personal meaning is formed. If Goffman's argument is true then it may explain why the influence strategy of Authority (Messenger) has not the same effect on everyone (Dolan et al, 2012). Additionally, taking into consideration:

- Watzlawick's famous axiom: "one cannot not communicate" (Watzlawick et al, 1967, p.30), and

- McLuhan's coined phrase: "the medium is the message" (McLuhan, 1965, p.7),

one can realise that communication is the outcome of a bidirectional, symbiotic relationship between the message and the medium. This means that content affects, and is affected by, context; in other words, the medium affects the way the message is received (McLuhan, 1965). Likewise, Durantini et al (2006) and Mulgan (2009) argue that persuasion strongly depends on the medium/source/messenger employed. Similarly, the idea that information always comes with a context, a source, a medium, is also endorsed by Payne (Payne, 2012, preface) who argues that no matter how one may try, "there is no neutral, odourless, colourless way of communicating".

Furthermore, as Dolan et al (2012, p.266) argue, "[t]he weight we give to information depends greatly on the automatic reactions we have to the perceived authority of the source of that information – the 'messenger'."

This means that, when we (intentionally or unintentionally) take the role of a message-receiver,[96] the automatic, irrational part of our brain (the 'elephant', System 1) comes to the forefront of our decision-making, influencing our actions. In other words, the degree to which a message will affect our attitude and/or behaviour depends not only on our brain's reflective reactions (System 2) to the quality of the information (content) but also depends on our brain's automatic reactions (System 1) to the context in which content is embedded – the medium/the source/the messenger. Thus, the same piece of information can have a different effect on people, depending on people's perception of the medium's authority, credibility, expertise. As Cialdini (2001, p.77; 2007) explains, people may even "ignore information from someone they dislike". The above can be summarised in Marshall's (2014, p.116-117) words:

> "the messenger is more important than the message [...] If words are frames and stories are the medium, then the person who communicates them becomes the most important and potentially the weakest link in the chain between scientific information and personal conviction. This sense of trustworthiness is a powerful bias and is entirely driven by the emotional brain and our intuitive ability to separate friends from foes."

This argument is also highlighted by McKenzie-Mohr et al (1999, p.89) who explain that "[t]he person who presents your message can have a dramatic impact upon how it is received. In general, the more credible the person or organisation delivering the message, the more influence there will be upon the audience". A messenger that is perceived to be credible increases "the likelihood that a piece of information 'is seen to be true'." (Dolan et al, 2012, p.266). Moreover, according to Dolan et al (2012, p.266), "There is much evidence that signals of authority can generate compliant behaviour". "For instance," as (Cialdini, 2001, p.77) explains, "when the news media present an acknowledged expert's views on a topic, the effect on public opinion is dramatic."

Indeed, Cialdini (2001, p.77) argues that the source of the information - the Messenger (also known as "The principle of Authority"), is a fundamental contextual factor for influencing human behaviour. Cialdini explains that "people defer to experts", and thus he urges policy-makers and communication-designers to "expose [a messenger's] expertise [and not] assume it's self-evident" in order to make behavioural requests more persuasive.

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[96] As we discussed in Section 3.4, Umberto Eco (1984) and Charles Peirce (1955) argue that as humans we exist in a permanent state of message-receiving, constantly surrounded by tangible and intangible message-senders. As both authors describe, everything can be considered as some kind of a sign pointing to the formation of personal meaning and, thus, shaping human behaviour.
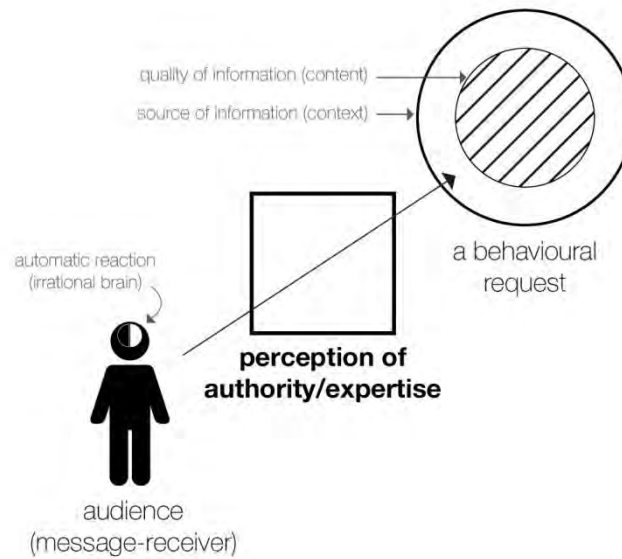
Figure 164. Our automatic reactions to the source of information (the medium/ the messenger)

shape our decision-making.

4.3.6.2   Examples of employing the principle of Authority

According to 'the Guardian' newspaper (Guardian, 2010), most of the people who are aware of the pro-environmental charity called 'Surfers Against Sewage' (SAS) have positive feelings towards it and perceive it as credible and trustworthy. Thus, if the principle of Authority is true then a sustainability message by SAS delivered to that audience will likely encourage message-receivers to comply with the behavioural request (see Figure 165) because, as described previously, people's positive feelings such as likeability/trust towards the messenger (SAS) is a significant factor that affects persuasion (Dolan et al, 2012; Cialdini, 2001).

Likewise, Miller's (2012) case-study is another example of the use of authority in text-based messages for sustainable behaviour. Miller displays authority simply by adding the logotype of the message-source (see Figure 166).

Figure 165. A likeable and trustworthy messenger: adding to a behavioural request a source that is perceived by message-receivers as credible, expert, and/or likeable, increases the likelihood of persuasion (unedited image source: Surfers Against Sewage, 2015).
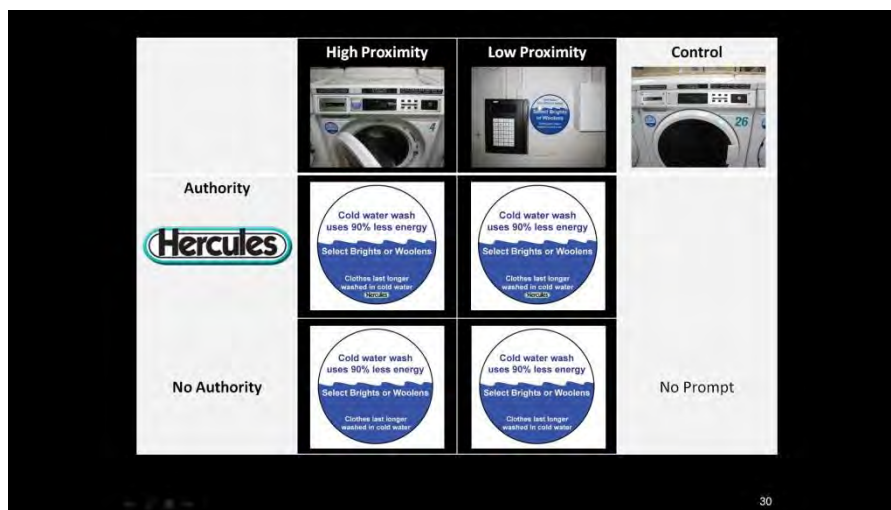
Figure 166. A screenshot illustrating Miller's (2012) case study on the use of Authority in sustainability messages.

Figure 167. A message that employs the principle of Authority and displays expertise (photo by author).
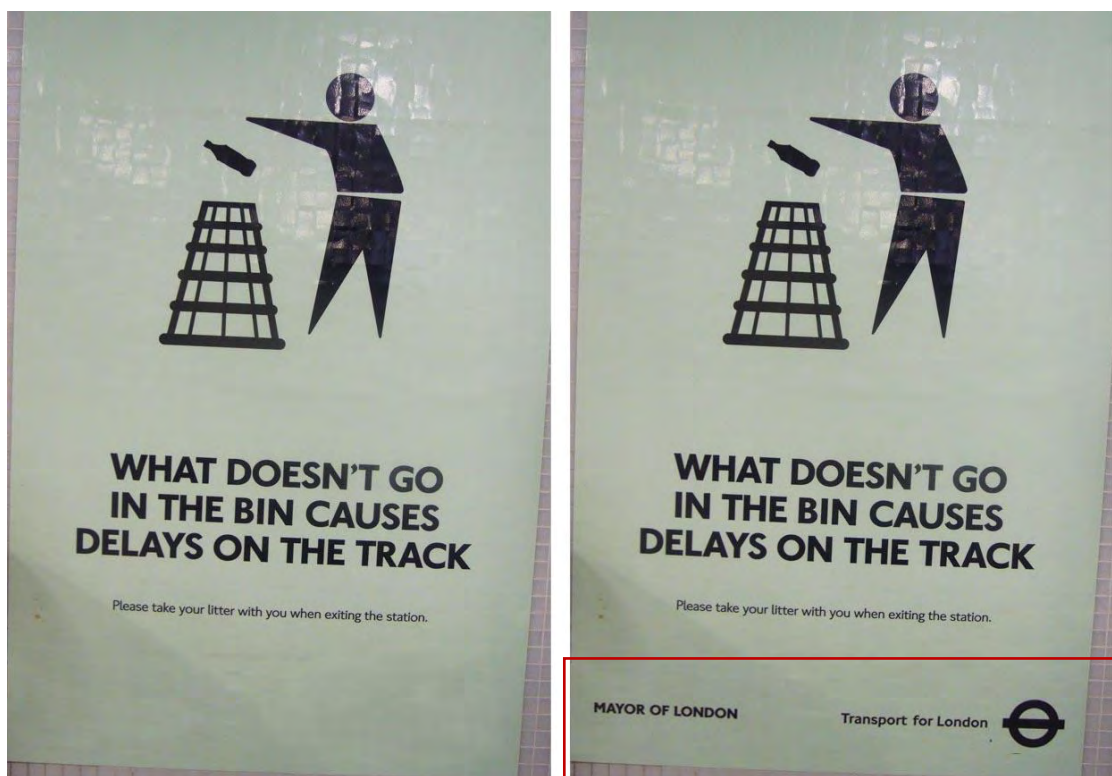
Figure 168. Adding cues of authority (photo by author).

Figure 169. Employing the principle of Authority on a local, smaller-scale level (photo by author).
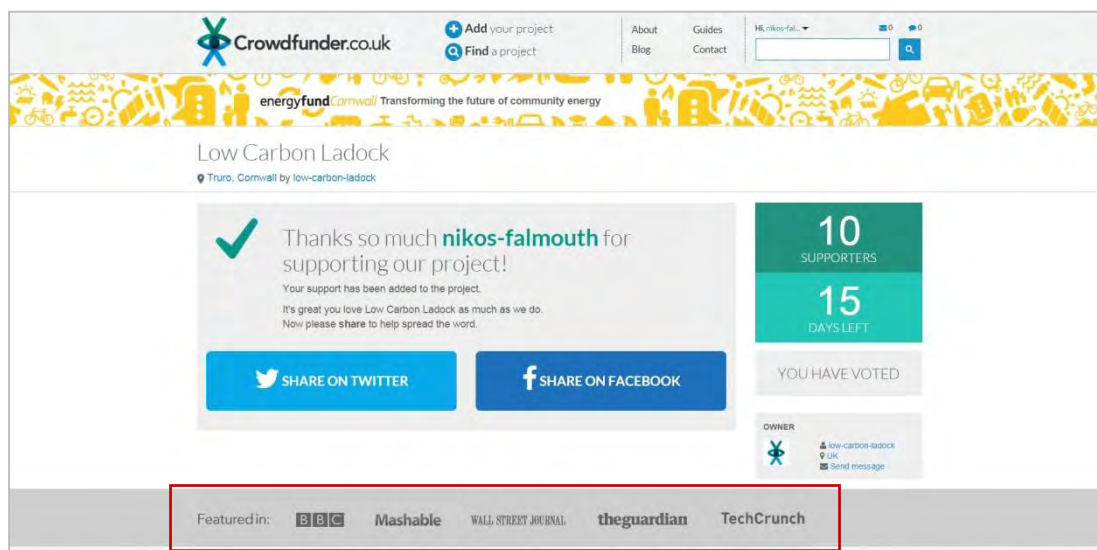
Figure 170. A request supported by many others adds to its perceived credibility.

The above insights from literature once again demonstrate that it is not only about:

- WHAT we say, but also
- HOW we say it (that involves WHO says it, who is the messenger).[97]

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[97] Another idea from Marshall (2014, p.119-120): "What climate change really needs are the voices of ordinary people who might not be fluent speakers or skilled orators but can bring an authenticity and genuine sense of common ownership to the issue; […] finding new messengers rather than new messages".

Figure 171. A sign that displays the source (logo) of the messenger, may increase the validity of the message in the eyes of the message-receiver and thus their likelihood to follow the call to action (indicating that this request is supported by many voices; photo by author).

Here, it is important to note that, one the one hand, compliant behaviour may be generated through the use of credible and knowledgeable sources but, on the other hand, as Kollmuss et al (2002) argue, signals of authority can be deliberately overridden if people have developed negative feelings towards those sources of information. As Dolan et al (2012, p.266) explain, "someone who has developed a dislike, or distrust, of government interventions may be less likely to listen to messages that they perceive to come from 'the government'." Likewise, Kollmuss et al (2002, p. 247) describe that "a lack of trust in the institution often stops people from acting pro-environmentally – since they are suspicious of local and national government, they are less willing to follow the prescribed actions." For example, as Payne (2012, p.88) describes:

> "In the 1980s Texan youth would not stop littering on the highways, despite fines in the thousands of dollars: the law was not authority enough. But Texas's sporting and country-music heroes were people the youth aspired to be, and impress: they had authority. A commercial television campaign was created and filmed using home-grown stars such as Lance Armstrong, Chuck Norris, Willie Nelson, Lyle Lovett, Owen Wilson, and others, who all spoke directly to the camera imploring the viewer to stop 'messing with Texas', as they were shown throwing litter in a bin. The use of respected celebrities cleverly avoided negatives of guilt and shame that legislation leans on by focusing on the positives of pride and group identity." This is known as "The 'Don't Mess with Texas' 1980s American littering campaign".

4.3.6.3 Incentives (Loss Language - The principle of Scarcity)

The science tells us that "our responses to incentives are shaped by predictable mental shortcuts such as strongly avoiding losses" (Dolan et al, 2012, p.266); an insight from the areas of Behavioural Economics, Psychology, and Social Marketing, that describes the tendency of people to be "loss averse", meaning that "potential losses figure far more heavily in [human] decision making than potential gains." (Cialdini, 2001, p.78); "the pain of losing something is greater than the pleasure of gaining it." (New Scientist, 2013, p.34). In short, "We really don't like loss: We work harder to avoid it than we do to achieve gain." (Payne, 2012, p.148).

Likewise, Cialdini (2001) argues that Loss Language, also called "the principle of Scarcity", is a fundamental contextual factor for influencing human behaviour. That is because "people want more of what they can have less" (Cialdini, 2001) and also, for some reason, "[s]carce items are considered more valuable than plentiful ones, irrespective of their actual value" (Payne, 2012, p.150). Thus, Cialdini urges policy-makers and communication-designers to "highlight unique benefits and exclusive information" in order to make behavioural requests more persuasive.

Back in 1979, psychologists Kahneman and Tversky, while analysing human decision-making, illustrated in their Prospect Theory that "[l]osses loom larger than gains", which indicates that humans' automatic response to loss is stronger than our response to gain (regarding the same absolute value reference): "This could be loss of time, or loss of social status, as well as the more obvious loss of money." (Kahneman & Tversky, 1979. In: Payne, 2012, p.39). For example, "losing £10 causes more pain than finding £10 causes pleasure" (Kahneman and Tversky, 1979. In: Metcalfe et al, 2012, p.504).

That may be a reason why, 20 years later, Community-Based Social Marketing experts McKenzie-Mohr and Smith argued that *avoiding losing* something can be a greater magnet as an incentive to fostering sustainable behaviour compared to gaining it: "Messages which emphasize losses which occur as a result of inaction are consistently more persuasive than messages that emphasize savings as a result of taking action." (McKenzie-Mohr et al, 1999, p.90).
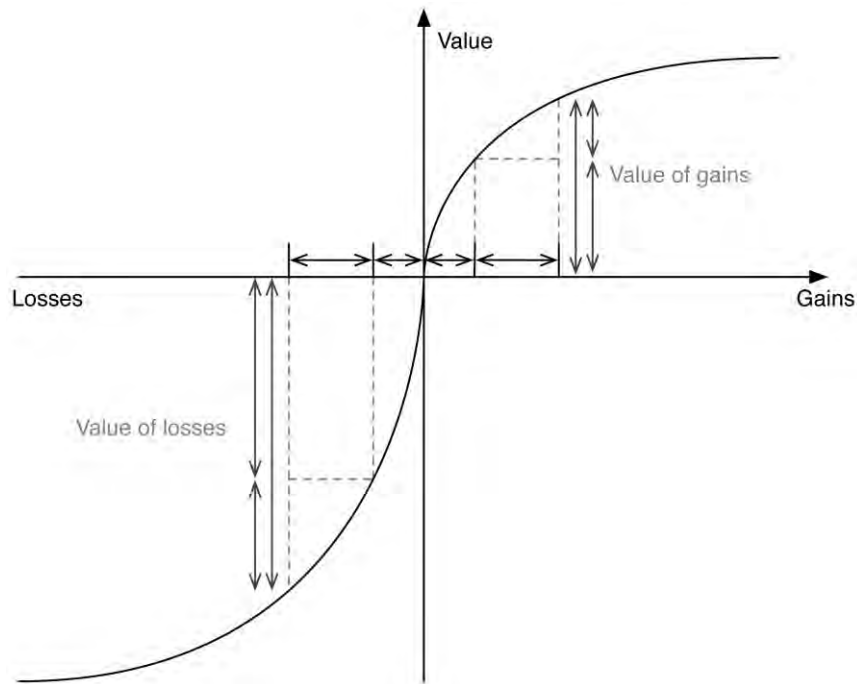
Figure 172. An adaptation of Kahneman and Tversky's value function graph of prospect theory (Kahneman et al, 1979, p.279; image source: UI Patterns, n.d.).

4.3.6.4 Examples of employing Incentives

As Cialdini (2001, p.78) describes: "Managers can learn from retailers how to frame their offers not in terms of what people stand to gain but in terms of what they stand to lose if they don't act on the information. The power of 'loss language' was demonstrated in a 1988 study of California home owners written up in the *Journal of Applied Psychology*. Half were told that if they fully insulated their homes, they would save a certain amount of money each day. The other half were told that if they failed to insulate, they would lose that amount each day. Significantly more people insulated their homes when exposed to the loss language. The same phenomenon occurs in business. According to a 1994 study in the journal *Organizational Behaviour and Human Decision Processes*, potential losses figure far more heavily in managers' decision making than potential gains." (see Figure 172 above).

Another example is the message in Figure 173 that reads: "Please don't miss this chance to save Lamu's turtles." WWF probably knows well that "Scarce items are considered more valuable than plentiful ones, irrespective of their actual value" (Payne, 2012, p.150), thus their campaigns employ loss-language (scarcity) and turn an individual's engagement with sustainability into a 'rare' opportunity; a unique chance that will soon be missed (lost).

If you fully insulate your home, you would **SAVE** a certain amount of money each week.

VS.

If you don't insulate your home, you would **LOSE** a certain amount of money each week.

Emphasis on gain

Employing loss language (more effective)

Figure 173. The principle of Scarcity: framing a message in terms of what people stand to lose enhances persuasion (adapted from Cialdini, 2001; 2007).

Figure 174. WWF is framing sustainable behaviour as a 'rare' opportunity that will soon be missed.

4.3.6.5 Norms (The principle of Consensus)

" 'We' is the most important word in behaviour change."
– Cornwall Sustainable Tourism Project, 2011.

"changes in norms may be the cheapest and
most effective way to make things better."
– Cass Sunstein. In: Payne, 2012, p.138.

The science tells us that "we are strongly influenced by what others do" (Dolan et al, 2012, p.266); an insight from the areas of Behavioural Economics, Psychology, and Consumer Research, that describes the tendency of people to look to the actions of most others in a similar situation, to determine their own, even if they do not realise it (Griskevicius et al, 2008).

Indeed, Cialdini (2001, p.75) argues that social norms, also called "the principle of Consensus (social proof)", is a fundamental contextual factor for influencing human behaviour because people will take cues on how to behave in social situations, from the surrounding behaviour of "similar others". Thus, Cialdini urges policy-makers and communication-designers to "use peer power whenever it's available" in order to make their behavioural requests more persuasive.

"Social and cultural norms are the behavioural expectations, or rules, within a society or group, or alternatively a standard, customary, or ideal form of behaviour to which individuals in a social group try to conform (Axelrod, 1986; Burke and Payton-Young. In: Dolan et al, 2012, p.268).[98]

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[98] According to Griskevicius et al (2008, p.7), when passing by a street musician, if people witness another person putting money in the hat of the performer, they are "eight times more likely" to also compensate him/her than those who did not see any person offering a contribution. This is a small example of "[t]he power of descriptive social norms: An empty jar stays empty; a jar with a few bills fills quickly." (p.12). Additionally, according to Cialdini (2007, p.116): "We view a behaviour as more correct in a given situation to the degree that we see others performing it. Whether the question is what to do with an empty popcorn box in a movie theatre, how fast to drive on a certain stretch of highway, or how to eat the chicken at a dinner party, the actions of those around us will be important in defining the answer."

4.3.6.6   Examples of employing Norms

There are many examples of persuasive communication employing the power of social norms. Two good case-studies are related to energy consumption:

1. within the context of touristic accommodation-provision (Goldstein et al, 2008a)
2. within the context of household energy consumption (Allcott, 2011).

1. The first example is Goldstein et al' s (2008a) exploration of the way language can influence human behaviour. More specifically, how written communication that employs social norms could persuade hotel-guests to engage in environmentally-friendly behaviours and re-use their room towels; a practice that, as Payne (2012, p.134) explains, "has obvious benefits for a hotel's bottom line: reducing laundry saves on labour costs, water, energy, and detergent. And it has an obvious benefit for the environment: resources – like water – are less stressed, and detergent pollution is reduced." In short, Goldstein et al (2008a) experimented with two basic versions of messages:

- Traditional messages focusing solely on environmental conservation ("Help save the environment"), "adopted throughout much of the hotel industry" (Goldstein et al 200b, p.11).
- Contemporary messages that employed social pressure ("the majority of guests at the hotel recycle their towels at least once during their stay").

Help save the environment

followed by information stressing respect for nature.

Wording 1

Partner with us to help save the environment

followed by information urging guests to cooperate with the hotel in preserving the environment.

Wording 2

Join your fellow guests in helping to save the environment

followed by information that the majority of hotel guests reuse their towels.

Wording 3: more effective

Figure 175. Contextual influence strategies improves persuasion (adapted from Goldstein et al, 2008, p.473).

As Metcalfe et al (2012, p.506) describe, Goldstein et al (2008) "found that when a hotel room contained a sign that asked people to recycle their towels to save the environment, 35% did so. When the sign used social norms and said that most guests at the hotel recycled their towels at least once during their stay, 44% complied. Finally, when the sign said that most previous occupants of the room had reused towels at some point during their stay, 49% of guests also recycled. So recycling increased by 70% once the appropriate norms had been highlighted."

In a nutshell, Griskevicius et al (2008) demonstrate that by employing social norms and simply pointing out that many (similar) others are already doing the right thing "increased towel reuse by 34%".

Figure 176. Based on the literature, "**I**" has limited effectiveness compared to "**We**" (photo by author).

2. The second example of persuasive communication that makes use of social norms, takes place within the context of household energy consumption: OPower, an energy company in the US, delivered personalised statements that included a household's energy-consumption information along with a social comparison with the energy-usage of their neighbours (similar-sized households) (Allcott, 2011; see Figures 176 and 177).
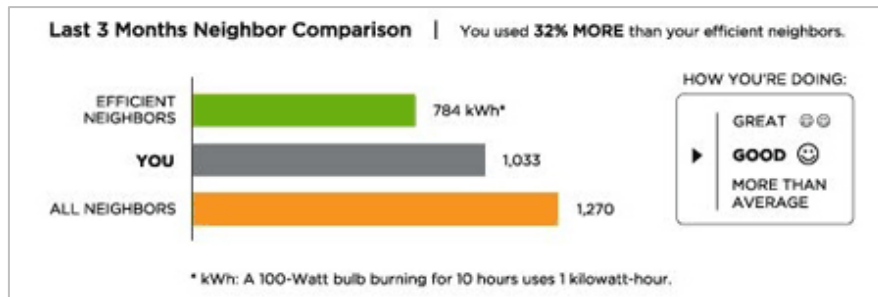
Figure 177. OPower's energy-consumption bill: Employing social norms (descriptive & injuctive) to motivate energy conservation; the smiley face indicates social approval (Allcott, 2011; image source: Design Thinkers, 2010).

According to Metcalfe et al (2012, p.506), initiating social pressure by comparing energy-usage behaviour with the behaviour of many similar others "was seen to reduce energy consumption by 2% relative to the baseline." OPower's approach demonstrates that appealing solely on economic incentives, environmental conservation, or moral suasion, is not as effective in behaviour-change as social pressure: simply telling people that most of their neighbours were already conserving energy, influenced their behaviour and decreased their energy consumption towards the average.

Figure 178. Employing social pressure to promote sustainable behaviour

(Allcott, 2011; image source: Laskey, 2013).

Both examples highlight the power of written language to change human behaviour and demonstrate that small changes in words can have a big impact on furthering sustainable

behaviour; a near-costless approach to significantly reducing energy/water consumption that, in turn, leads to significant environmental and economic benefits (Goldstein et al, 2008).

As Corner (2012) argues, making visible that 'most people are already doing the right thing' is exactly the optimal way to harness the persuasive power of social norms. This persuasion strategy is endorsed by numerous behaviour-change initiatives, such as the "Most Of Us" campaign, in Montana, USA (see Figure 178). As Payne (2012, p.20) puts it, whether it is about promoting responsible driving behaviour or encouraging community participation, "Language can help define the 'norm'. Whatever the 'norm' is, it's important because it's a powerful driver of our behaviour: no one wants to be the odd-ball in the group."

Figure 179. "Most Of Us" campaign makes visible that 'most people are already doing the right thing', in order to promote desired driving behaviours.

According to Payne (2012, p.134), "if a 'norm' is a desirable behaviour, it is often much more powerful to tell people how many other people conform, rather than to ask for change. You really do very little work other than shine a light on an existing practice." Likewise, in order to influence people to avoid engaging in a specific undesired behaviour, it is advised to position it as socially unacceptable; something that is not common, not normal (Corner, 2012, p.32).

Figure 180. Green behaviour is normal, wasting water is weird: "Being good is important but being normal is even more so." (Futerra sustainability communications, 2013; left image: ASDA marketing; right image source: Lindsey Fischbach Productions, 2011; credit: Shelton Group agency).

Last, James (2010, p.8) advises communication designers to make social norms visible by using language in the form of "this house composts" or "most people think composting is great", and avoid negative descriptive norms like "87% of people have never composted". Moreover, from a marketing viewpoint, Cialdini (2001, p.76) argues that "Stated simple, influence is often best exerted horizontally rather than vertical", and he explains that "Testimonials from satisfied customers work best when the satisfied customer and the prospective customer share similar circumstances."

Figure 181. Using social norms to promote pro-social behaviours. Left image: CoaST's Hotel social-norm cards making visible that reusing room-towels is what most guests do; the norm (image source: CoaST). Right image: 99percent.org.uk campaign in London (UK), reads: *"99% OF YOUNG LONDONERS DO NOT COMMIT SERIOUS YOUTH VIOLENCE"* (image source: Nudge, 2010b; credit: Jon de Quidt).

4.3.6.7   The Average is Magnetic

Notably, Behavioural Science distinguishes between two kinds of social norms:

- Descriptive social norms: "merely describe how others are behaving" (Cialdini et al., 1991. In: van der Linden, 2014, p.257); "the perception of what is commonly done in a situation." (Griskevicius et al, 2008, p.6).
- Injuctive social norms: "how others think someone ought to behave" (Cialdini et al., 1991. In: van der Linden, 2014, p.257).

However, as Schultz et al (2007, p.429) argue, communicators need to be cautious when crafting persuasive messages based on social norms, because apart from being "constructive", if not carefully framed, social norms can also have "destructive" powers. In other words, when exerting the 'average', communicators need to be cautious of its magnetic characteristic because it is fragile and can easily create unintended consequences: it can improve the undesirable but it can also hinder the desirable; Lockton (2012, p.4) calls this the "boomerang effect" that can cause sustainability "messages to self-destruct." (Goldstein et al, 2008b, p.18).

According to Dolan et al (2012, p.268), "when people hear that others are behaving worse than them", employing descriptive social norms can have unintended results and can "backfire". For example, "users who are told they are using less energy than average may subsequently increase their usage towards the average." (Lockton, 2012, p.4). In this case, Dolan et al (2012, p.268) explain that descriptive norms "need reinforcing" by employing injuctive norms. Likewise, Payne (2012, p.98) advises communication designers "to present the 'descriptive normative' electricity usage information with an injuctive message of approval to the low users and an injuctive message of disapproval to the high users." As many argue (Schultz et al, 2007; Allcott, 2011; South Lanarkshire Council, 2007), this can be achieved by adding a simple smiling or sad face to indicate social approval or disapproval respectively; as Lockton (2012, p.4) puts it, to "congratulate" people for their appropriate behaviour. In Sussman et al's (2012, p.598) words: "injuctive norm messages, specifically using the happy face emoticon, can be used to encourage pro-environmental behaviour in the absence of descriptive norm information (Cialdini et al, 1990; Schultz et al, 2008)."
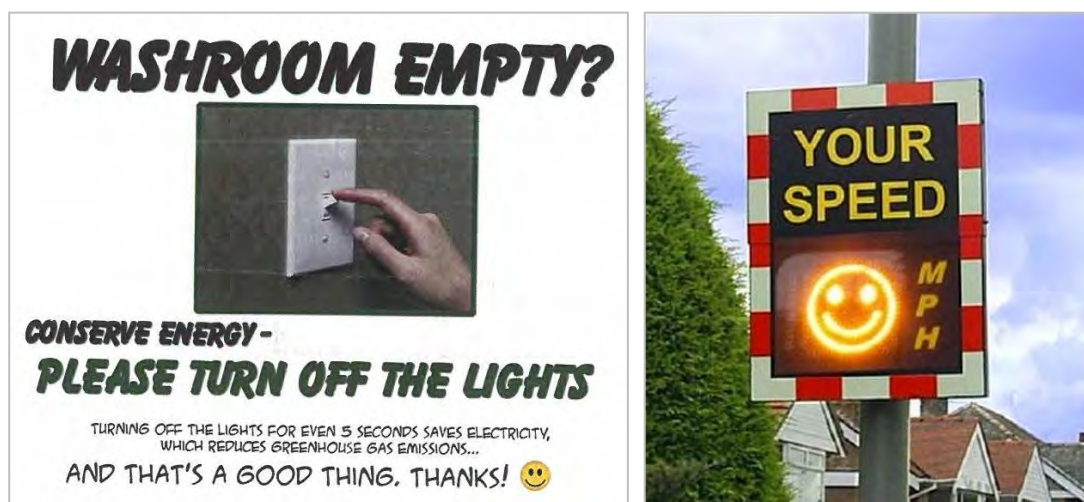
Figure 182. Indicating social approval of a particular behaviour through a 'smiley' face. Examples of applying injuctive norms to motivate:

- (middle) energy conservation (Image credit: Sussman et al, 2012)
- (bottom) responsible driving behaviour (Vehicle Activated Signs, South Lanarkshire Council, UK; image source: Payne and Elder, 2010).
- "The oncoming driver sees a 'smiley face' if he is under the speed limit, or a 'sad face' if he is over it." (Payne, 2012, p.96).

Here, it would be beneficial to note Cialdini's case-study on the unintended consequences of social norms, as described by Metcalfe et al (2012, p.506):

"Cialdini (2003) placed two signs in different areas of a national park. One sign urged visitors not to take wood and depicted a scene showing three thieves stealing wood, while the second sign depicted a single thief – indicating that stealing is definitely not a social norm. The first message, subtly conveying a norm, increased the amount of wood stolen by 8%, while the other sign increased it by 2%, therefore, policymakers may actually validate and encourage harmful actions by making them appear the norm rather than the exception."

Arizona's Petrified Forest National Park

Many past visitors have removed the petrified wood from the park, changing the state of the Petrified Forest.

vs.

Please don't remove the petrifed wood from the park, in order to reserve the natural state of the Petrified Forest.

Negative descriptive norms increased theft

This sign was more effective

Figure 183. The science of persuasion urges communicators to avoid describing "that a large number of people are performing the undesired behaviour [because doing] so is to inadvertently suggest its acceptability." (Winter et al, 2007, p.20). Instead, it is more effective to emphasize that only a minority of people are performing the undesired behaviour, or emphasize that this behaviour is definitely not approved. (Cialdini, 2003).

Likewise, Kazdin (2009, p.347) explains that: "Messages surround us in everyday life (e.g., about littering, nutrition, seat-belt use). Most of these messages, however, do not rely on what we have learned about message framing. Indeed, some of the messages present information (e.g., 'Many people litter, please do not be one of them.') that is likely to exacerbate the problem by normative modelling of the behaviour opposite from the one that is needed". More specifically, as James (2010, p.8) explains, it is more effective to "avoid negative descriptive norms" or otherwise emphasize that only a minority of people are performing the undesired behaviour.

As a result, communication approaches should "not emphasize that a large number of people are performing the undesirable behaviour [because doing] so is to inadvertently suggest its acceptability." (Winter et al, 2007, p.20). That is because "[w]ithin the lament 'Look at all the people who are doing this undesirable thing' lurks the powerful and undercutting disclosure 'Look at all the people who are doing it.' In trying to alert one's audience to the growing occurrence of a problem, communicators can inadvertently make it worse." (Griskevicius et al, 2008, p.9).

Based on the above arguments, one can understand that people look to the actions of most others in a similar situation to determine their own, even if that behaviour might be environmentally or socially unfriendly (Griskevicius et al, 2008). "[W]e are influenced more by what we see or think others are doing rather than norms that refer to what we 'ought' to be doing (Cialdini, Kallgren, and Reno, 1991. In: Dolan et al, 2012, p.269). As Pettersen and Boks (2008, p.115) put it, "[i]f most people download music and movies illegally, one may be tempted to follow."

Moreover, if Cialdini's research is true then WWF's campaign in Greece to encourage the use of public transportation is not only ineffective but is also inadvertently promoting the use of cars. This is based on the fact that, as shown in Figure 184, their message reads: "most Athenians use their car to go to work"; a language that emphasises negative descriptive norms and at the same time misses disproving that through injuctive norms (e.g. a sad face).

Figure 184. WWF's campaign in Greece may inadvertently be promoting environmentally-harmful behaviours (photo by author).

Indeed, as Futerra (2006) points out, it is important to "[r]emember to make good sound normal and bad sound rare. Being good is important but being normal is even more so." That is why Corner (2012, p.31) advises communication designers: "try to ensure that your initiative has a social visibility, and is not simply restricted to personal emails or leaflets in people's pigeon holes. More than any information or facts you can give them, your audience will take their cues as to whether sustainable behaviour is something weird or something normal from their social group."

But why are social norms a contextual factor? And to begin with, what does a 'contextual factor' even mean? Based on Payne (2012, p.97), a contextual factor is a factor that influences human behaviour by triggering the automatic part of our brain (System 1); a part that makes "intuitive, rapid, and associative" responses "without having to negotiate the cognitive layer" of our brain (System 2).

As Marshall (2014, p.49) explains, the brain's ability to quickly make a decision goes back a long way in our evolutionary journey, where the primitive man had to "rapidly assess threats" that were critical for his/her survival. Additionally, Payne (2012, p.94-97) suggests a connection between engaging the automatic part of our brain and triggering ancient, primeval instincts critical for the primitive man's survival. In other words, when social norms are employed, Payne (2012, p.97) argues that the primeval, deeply-rooted instinct to avoid being abandoned from the group (tribe) automatically impacts our decision-making, putting logic and argument aside: "We make an intuitive, rapid, and associative effort that evokes the self-interested motive of reputation maintenance and quite possibly our chance of survival – sad faces mean ostracisation and abandonment."

Moreover, in his widely recognised book "Predictably Irrational", Dan Ariely (2009), professor of Psychology and Behavioural Economics at Duke University, goes even further and argues that all humans share some common patterns of irrational behaviour and that people's irrational (automatic) responses to various factors are consistent and, thus, can be predicted.

4.3.6.8 Defaults (Choice Architecture)

People living in western societies tend to lead a busy and fast-paced life; one that is fabricated with an overdose of daily choices to be made. Either mundane or complex, people favour their choices to be made "quickly and painlessly. [...] And this is where defaults come in." (Payne, 2012, p.45). "Defaults are the options that are pre-selected if an individual does not make an active choice" (Dolan et al, 2012. In: Metcalfe et al, 2012, p.506).

The science tells us that "We 'go with the flow' of pre-set options" (Dolan et al, 2012, p.266); an insight from Behavioural Economics that describes people's "tendency to go along with the default option" presented to them (James, 2010, p.9). According to Dolan et al (2012), many decision-making processes we undertake in our daily lives come with a default option, whether we are aware of it or not. Whatever the reason may be, "[d]efaults exert influence as individuals regularly accept whatever the default setting is, even if it has significant consequences." (Dolan et al, 2012, p.269). Therefore, "[a]sking a question with an in-built default option can be more powerful than you might think." (Payne, 2012, p.45).

4.3.6.9 Example of employing Defaults

One good case-study of persuasive communication that makes use of the power of defaults, takes place in the context of organ donation: in their study titled "Do defaults save lives?", Johnson and Goldstein (2003) examined the effects of 'opt-in/opt-out defaults' in people's decision-making, in regards to registering as potential organ donors. The figure below illustrates the percentage of people's interest in donating their organs after they pass-away.
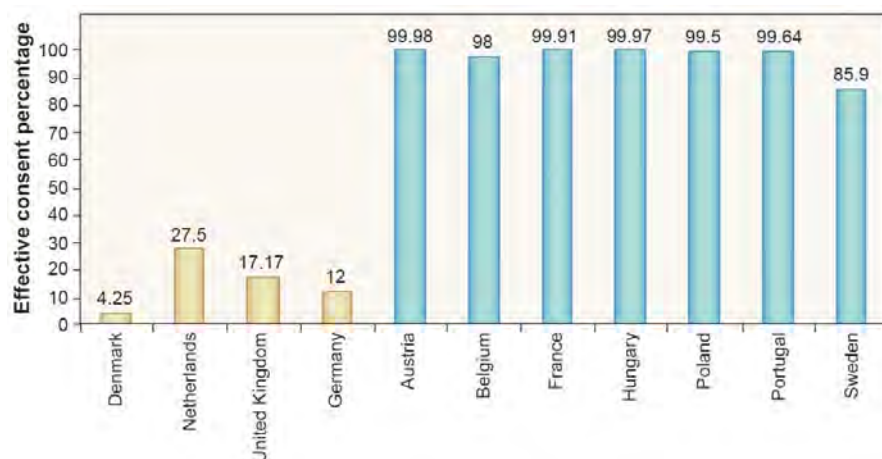
Figure 185. People's interest in participating in an organ-donation program (countries in gold: opt-in approach; countries in blue: opt-out approach) (image source: Johnson and Goldstein, 2003).

According to Johnson and Goldstein's (2003) research, countries on the right side of the graph (in blue) expressed a huge interest in organ-donation compared to countries on the left side (in gold). But what influenced so dramatically people's decision-making in becoming potential organ donors? As Dan Ariely, professor of Psychology and Behavioural Economics at Duke University, explains, the basic influencing factor was not culture- nor religion-related, but it was the way the organ-donation question was framed in the enrolment form of each country; in other words, the way the communication *in which* people made their decision was designed, had a dramatic impact on people's final outcome (Ariely, 2009; 2013).

Here, once again, we witness the irrational, automatic part of our brain (System 1) coming to the forefront of our decision-making, reacting by association to the contextual factor of defaults. Thus, Johnson and Goldstein (2003) validate the viewpoint of Behavioural Economics that when it comes to decision-making, we are not as rational as we assume, and maybe, as Ariely (2009) suggests, we are not in control of our decisions as much as we would like to assume.

Why defaults work? "Oddly," as Payne (2012, p.47) argues, "few people question the merits or otherwise of a default", and just go along with pre-selected choice. Notably, this is not a case of people not reading the fine print, just like internet users ignore "those *'By clicking here, you agree to...'* pages of the Web" (Shirky, 2008, p.273). Instead, a couple of reasons could possibly explain this predictable response to defaults::

- first, people are likely to favour "the path of least resistance" (Ariely, 2008), "especially [...] when deviating from default is more complex." (Ariely, 2013).
- second, "possibly because of an inference that it's 'approved' by some sort of authority [that is] implying their willingness and recommendation by making it the default" (Pichert and Katsikopoulos, 2008. In: Payne, 2012, p.47).

Notably, Payne (2012, p.146) argues that: "Those who specify what is a default rarely know their power, and we that react to those defaults rarely realise how much we're affected by them [...] They can imply ownership, which affects decisions. They can imply suggested preference, which brings out the authority effect".

As Ariely (2013) describes in more detail (see Figure 186 below), countries that utilized an 'opt-in' public policy and had a low consent-rate, communicated the organ-donation question like this:

*'Please check the box **if you want** to participate in the program.'*

People didn't check; they didn't join.

On the contrary, countries with an 'opt-out' policy choice, that demonstrated a significantly higher consent-rate in organ-donation, communicated the organ-donation question like this:

*'Please check the box **if you don't want** to participate in the program:'*

People didn't check; they joined.
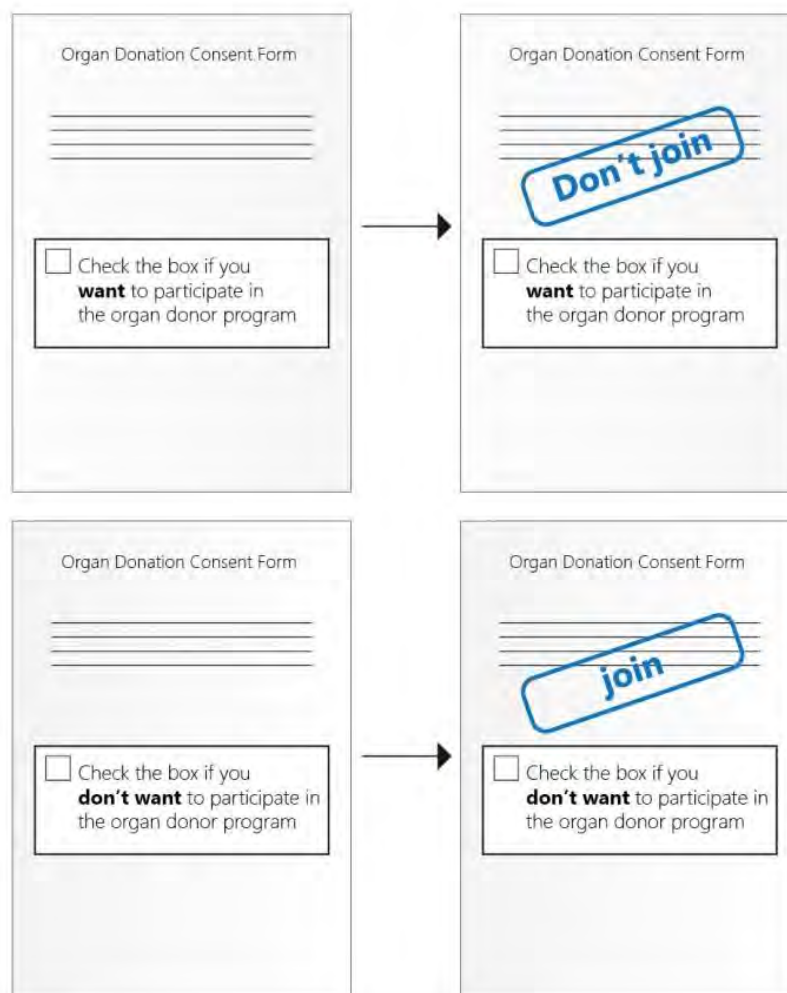
Figure 186. An adaptation (based on Ariely, 2013; 2009) of Johnson and Goldstein's 2003 default forms: The main reason that influenced people's decision-making, was the way choice was presented (designed) in the consent forms.

In the words of Dan Ariely: "If you take this result seriously what it suggests is: Yes, we make decisions, but the people who design the forms in which we make decisions have a lot to say about our final decisions; the people who design the environment in which we make decisions have a lot to do with how our final decisions would actually look like. And we call this, Choice Architecture." (Ariely, 2013). Similarly, as James (2010, p.9) describes:

> "Perhaps the most effective situational measure is changing the default. We all have automatic behaviours which make day to day life easier. And, we have a tendency to go along with the default option. By changing this default we can promote sustainable behaviours. So, make double-sided printing the default setting; place the organic/local/low packaging food item at eye level. Thaler and Sunstein call this 'libertarian paternalism', and encourage us all to be 'choice architects'."
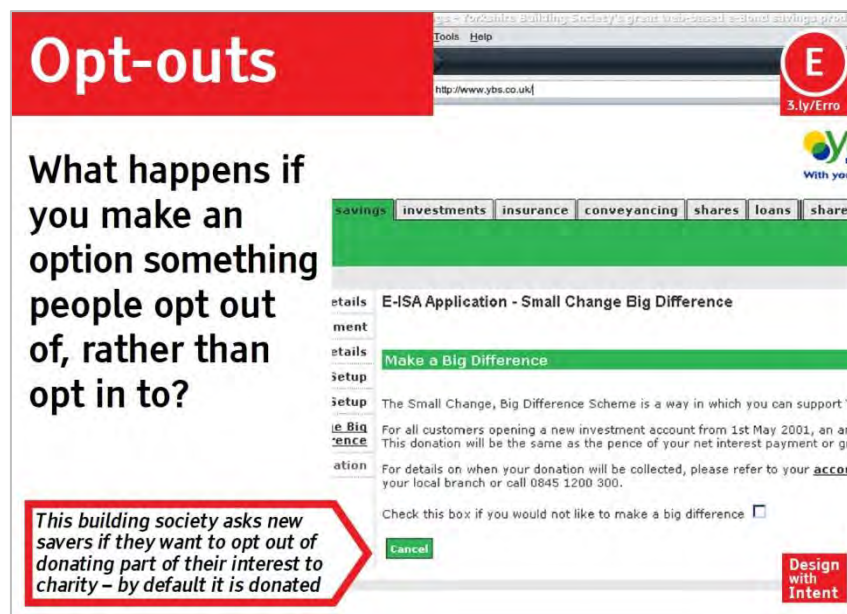
Figure 187. Lockton (2013) advises designers to utilise "defaults" and "opt-outs" as strategies for influencing an intended user-behaviour.

In another example, the hotel signs in Figure 188 set resource conservation and environmental stewardship as the default choice. The signs notify hotel guests that due to the hotel's effort to promote environmental conservation, they do not change visitors' bed linen (default status) *unless* guests indicate their desire to do so (opt-in) by placing the card on their bed (guests affirmatively choosing to opt-in). In this way, the hotel-visitor always has the opportunity to have their bed-linen changed if they wish, and the hotel, by switching their default status from 'changing bed-linen' to 'not-changing bed linen (unless requested)', may significantly reduce their resource-consumption and promote pro-environmental and economical benefits.
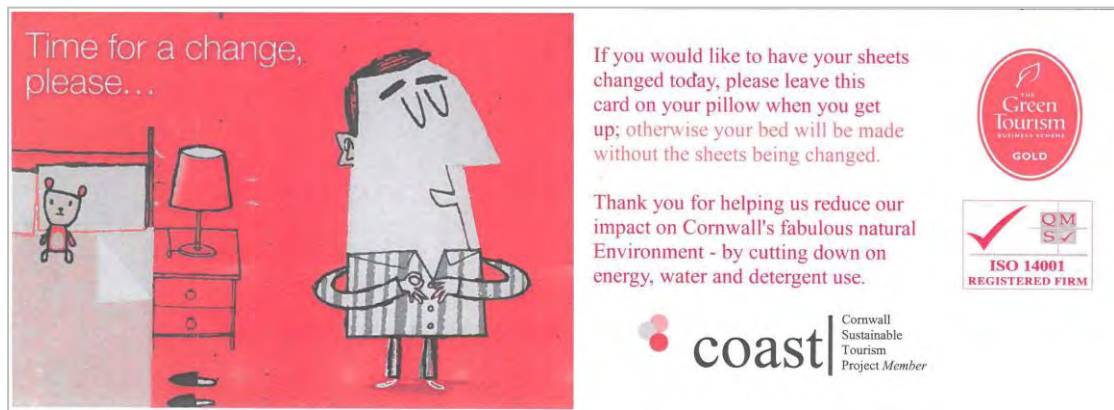
Figure 188. 'Defaults' hotel signs: the pro-environmental choice has been pre-selected as the option that will take place if no other choice is made from hotel guests. Two examples of "defaulting people into" sustainable behaviour (Metcalfe et al, 2012, p.506) by "presenting choice in favour of sustainability" (Payne, 2012, preface; top image source: Josh Blackman, 2012; bottom images source: CoaST)).

Figure 189. "Asking a question with an in-built default option can be more powerful than you might think." (Payne, 2012, p.45). For example, this charity has already pre-selected £15 as the default donating choice, in an effort to encourage more online donations (image source: ElectricPutty, 2013).

4.3.6.10 Priming

The science tells us that "our acts are often influenced by sub-conscious cues" (Dolan et al, 2012, p.266); an insight from the areas of Behavioural Economics, Psychology, and Evolution & Human Behaviour, that describes the tendency of people to alter their subsequent behaviour "if they are first exposed to certain sights, words or sensations (Bargh, 2006; Bargh & Chartrand, 1999; Williams & Bargh, 2008. In: Dolan et al, 2012, p.270). "In other words, people behave differently if they have been 'primed' by certain cues beforehand." (Dolan et al, 2012, p.270).

What does a sub-conscious cue mean? A sub-conscious cue is a factor that influences decision-making without humans being necessarily consciously aware of it; "which means it is different from simply remembering things" (Metcalfe et al, 2012, p.506). Behavioural Economics explains that "primes do not have to be literally subliminal to work" (Cabinet Office and Institute for Government, 2010, p.24), but many and different sub-conscious cues, such as words, images, sounds, and smells, can be used to trigger automatic responses in human behaviour.

4.3.6.11 Examples of employing Priming

For example, in the case of priming people through language, "Dijksterhuis and Bargh (2001) exposed people to words relating to the elderly (e.g. 'wrinkles')"; as a consequence "they subsequently walked more slowly when leaving the room and had a poorer memory of the room. In other words, they had been primed with an elderly stereotype and behaved accordingly." (Dijksterhuis et al, 2001. In: Metcalfe et al, 2012, p.506).

Another example is priming through smell, where "[m]ere exposure to the scent of an all-purpose cleaner made significantly more people to keep their table cleaner while eating in a canteen." (Holland et al, 2005. In: Cabinet Office and Institute for Government, 2010, p.25).

Figure 190. Not just visual cues; "scent branding" (image: Lockton, 2013).

Another good example is related to priming through images: A study in the area of Evolution & Human Behaviour (Bateson et al, 2006, p.2) demonstrated that exposing people to situational cues of being observed, can be an important factor in triggering "cooperative behaviour".

Bateson et al (2006) used a university's coffee-room 'honesty box' (a small box used to collect any economic contributions for using tea, coffee and milk) as the focal point for their social experiment, and attached "an image of a pair of eyes [...] looking directly at the observer" on the sign that indicated the suggested prices, located right above the honesty box (p.1). Over the weeks, as Payne (2012, p.95) describes, they discovered that this "small tweak" had a "staggering" effect on the department's behaviour, by dramatically increasing people's voluntary contribution for using the commodities provided.[99]

As Payne (2012, p.94) explains, even though our rational perspective makes us aware that this digitally edited pair of eyes is simply "a poor facsimile" of a human face, nevertheless, however strange it may seem, "we [do] get fooled by 'a pair of fake eyeballs because ancient parts of our brain fail to recognize them as fake.' (Woods, 2005. In: Payne, 2012, p.94).

"However odd it seems", an image of a pair of eyes staring at the viewer "can evoke deep-seated responses in humans" (Payne, 2012, p.99; p.94), and can have a significant effect in motivating the viewer to engage in "cooperative behaviour" (Bateson et al, 2006). Because, as Payne (2012, p.94) explains, "We act as if we're being watched. And because we're evolutionary familiar with living in small groups, being watched affects our reputation – being seen to be generous might mean increased chance of future gifts or decreased chance of future punishment." (Payne, 2012, p.94).[100]

According to the area of Evolution and Human Behaviour, "people increase their levels of cooperation when they know their behaviour is being observed by others" therefore displaying cues of being-watched can "motivate cooperative behaviour" (Bateson et al, 2006, p.1; p.2). This concept is based on the behavioural insight that people's need to maintain a positive social reputation ('what will others think of me') can significantly modify their behaviour (Bateson et al, 2006).

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[99] Goldstein et al (2008b, p.171) also refer to Bateson et al's (2006) research, and explain that "coffee and tea drinkers paid over 2.5 times more for their drink when the sign was accompanied by a picture of a pair of eyes than when they saw a picture of flowers."

[100] "[T]he reality that underpins [this] response" (Payne, 2012, p.99) is that " '[o]ur mental architecture is just not used to the modern environment.' " (Woods, 2005. In: Payne, 2012, p.99).

Figure 191. Priming people with situational cues of being observed can be an important factor in triggering desired behaviour (Bateson et al, 2006, p.2; Metcalfe et al, 2012; photo by author).
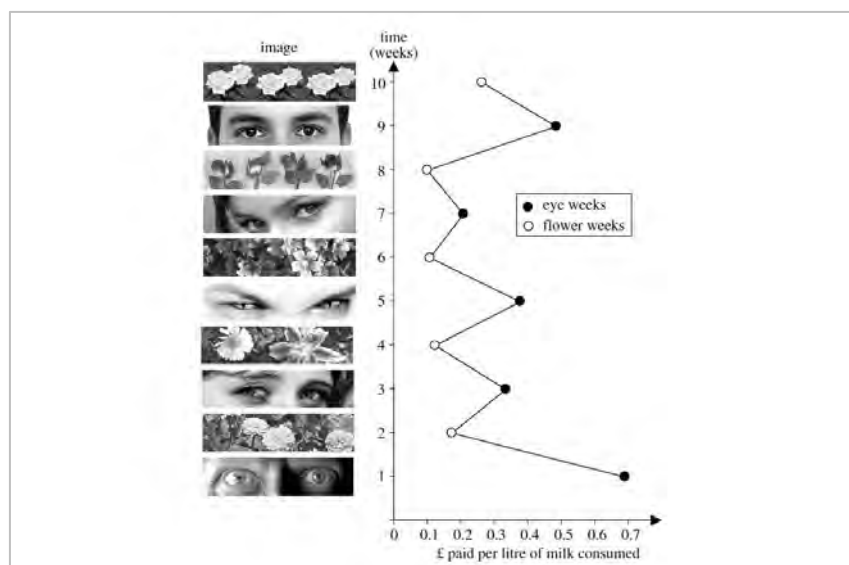
Figure 192. "Eyes promote cooperation"- various image types used for the study (Bateson et al, 2006).

Figure 193. Adding "an image of a pair of eyes (...) looking directly at the observer" dramatically increased people's voluntary contribution (Bateson et al, 2006, p.1; image adapted from Payne and Elder, 2010).

Bateson et al's 2006 promising findings of using visual priming to influence human behaviour led to another study titled: "Cycle thieves, we are watching you: impact of a simple signage intervention against bicycle theft " (Nettle et al, 2012). This research (see Figure 194) possibly motivated Devon & Cornwall Police to apply the study's insights to their jurisdiction to discourage undesired behaviours (see Figure 195).

Figure 194. " 'Cycle Thieves, We Are Watching You': Impact of a Simple Signage Intervention against Bicycle Theft " (Nettle, Nott, and Bateson, 2012).

Figure 195. The strategy of Priming used in behaviour change initiatives of the Devon & Cornwall Police (photo by author).

In another example, the sign below utilises the power of priming (through images) to influence sustainable behaviour within the workplace.

Figure 196. Influencing sustainable behaviour within the workplace (image source: Melodies in Marketing, 2011).

So, how does priming work? How do sub-conscious cues influence human behaviour?

As mentioned in the beginning, priming "is different from simply remembering things" (Metcalfe et al, 2012, p.506). "Priming is formally defined as 'the procedural feature that some previously activated information impacts on the processing of subsequent information'" (Hertel & Fiedler, 1994. In: Metcalfe et al, 2012, p.506). In other words, it is "[t]he process of bringing to the forefront of our mind a particular understanding of the world immediately before or during a new situation: The smell of freshly baked bread or fresh coffee in a house for sale, for instance, brings to mind lazy Sundays at home". (Payne, 2012, p.150).

"They ascribe the stunningly large effect of the image of the eyes to inducing a perception of being watched. This is important because the act of being watched stores information in social groups in the form of reputation. And the self-interested motive of reputation maintenance may be sufficient to explain co-operation in the absence of direct return." (Payne, 2012, p.95).

The study concluded that "reputational concerns may be extremely powerful in motivating cooperative behaviour" (Bateson at al, 2006, p.2), because most humans are motivated to maintain a pro-social reputation (Alexander, 1987; Roberts, 1998. In: Bateson et al, 2006, p.1).
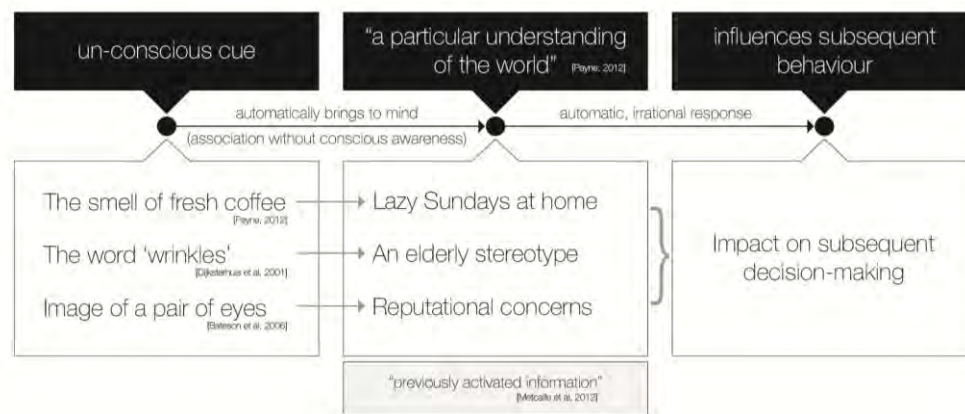
Figure 197. An attempt to visually explain how the strategy of priming works (adapted fromPayne, 2012; Dijksterhuis et al, 2001; Bateson et al, 2006; Metcalfe et al, 2012).

This means that our rapid, intuitive, automatic (System 1 brain) responses to cues have the potential to significantly impact the outcome of our final decisions. Notably, certain primes can impact the outcome of our decisions on an unconscious level, outside of our conscious awareness. Even though Behavioural Economics acknowledges that "[t]hese types of effects are real and robust [and] have been repeatedly proved in many studies", it also acknowledges the challenge of how to intentionally use sub-conscious cues that will result in specific, desired behaviours. Of course, not everyone associates the smell of fresh coffee to a pleasant, relaxed feeling. This means that the same priming mechanisms may have different automatic responses from various people because people have different understandings of the world around them. Thus, people's diverse worldviews is possibly a central reason that makes Priming "the least understood of the MINDSPACE effects" (Cabinet Office and Institute for Government, 2010, p.25).[101]

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[101] Interestingly, as Wilson (2002. In: Dolan et al, 2012, p.271) explains: "When priming is linked to limited attention, it is conceivable that a great deal of the decisions in our lives might be made without us consciously knowing about them".

4.3.6.12 Commitment (The principle of Consistency)

The science tells us that "We seek to be consistent with our public promises, and reciprocate acts" (Dolan et al, 2012, p.266); an insight from the areas of Behavioural Economics, Economic Psychology, and Consumer Behaviour Research, that describes the "strong desire" of people "to be seen as consistent by others." (McKenzie-Mohr et al, 1999, p.153).

Cialdini (2001) argues that Commitment (also called "the principle of Consistency") is a fundamental contextual factor for influencing human behaviour. "People align with their clear commitments" (Cialdini, 2001), therefore "[c]ommitments set the stage for subsequent consistent behaviour" (Cialdini, 2007. In: Baca-Motes et al, 2012, p.1071). This means that when an individual makes a public commitment, they are more likely to fulfil it, in order to avoid "reputational damage" (Dolan et al, 2012, p.271). Thus, Cialdini (2001) urges policy-makers and communication-designers to make their behavioural requests more persuasive by establishing a commitment from people in an "active, public, and voluntary" way.

But why does a commitment influence people's subsequent behaviour? McKenzie-Mohr et al (1999, p.153-154) explain that:

> "There are likely two reasons. First, when people go along with an initial request, it often alters the way they perceive themselves. That is, they come to see themselves, for example, as the type of person who believes it is important to purchase products that have recycled content. Second, we have a strong desire to be seen as consistent by others. Indeed, our society emphasizes consistency and people who are inconsistent are often viewed negatively. As a result, if we agree to wear a button supporting the purchase of recycled-content products, it would be inconsistent not to purchase these products when we shop."

4.3.6.13 Examples of employing Commitment/Consistency

A recent study from Baca-Motes et al (2013) explored the power of the principle of Consistency in influencing sustainable behaviour within the context of accommodation-provision: during check-in, guests were asked to voluntarily commit to join the hotel's current environmentally-friendly efforts, by publicly signing a statement to act sustainably during their stay (by re-using their towels). The commitment was anonymous and symbolic, so after the check-in process visitors could behave in the way they wished.

Figure 198. Hotel guests & Commitment: Baca-Motes et al's (2013) form, committing visitors into sustainable behaviour through obtaining a written, voluntary, and publicly expressed commitment to practice a specific pro-environmental behaviour.

Visitors who expressed their commitment to engage in specific sustainable behaviours "were over 25% more likely to reuse their towels and hung over 40% more used towels" than guests that were not presented with the commitment choice at all (Baca-Motes et al, 2013, p.1078). Notably, commitments expressed publically rather than privately increase people's consistency in acting sustainably (Baca-Motes et al, 2012, p.1072).

Moreover, the commitment statement used in the study was specific, describing specifically defined steps required from the visitor to achieve the desired behaviour (re-using their towels in order to save energy and water); this "specific messaging" was more effective in promoting sustainable behaviour compared to "non-specific messaging" that just asked visitors to generally 'do their best' to practice environmentally friendly behaviours (Baca-Motes et al, 2013, p.1072). Baca-Motes et al's (2013) case-study designates the importance of 'specificity' in a (communication) design intervention, clearly articulating (McKenzie-Mohr et al,

1999, p.93) in "positive, clear terms the specific action that you want people to do" (Tools of Change, 2012a) in order to effectively motivate pro-environmental action (James, 2010, p.6).

Additionally, "Turn It Off" is another case-study that demonstrates the power of Commitment in furthering sustainability within the context of transportation behaviour (Tools of Change, 2004). "Turn It Off" was a community-based initiative to promote pro-environmental behaviours by encouraging individuals to turn their vehicle engine off while they were parked and waited inside their vehicle, in order to reduce the harmful emissions that occur from that activity (also known as idling). The issue was approached through using the behaviour-change strategies of "Prompting" (signs, stickers, leaflets) and "Obtaining a Commitment" (requesting a personal agreement from drivers that they will indeed turn off their engines while their vehicle was stopped). The project demonstrated that the simple and cost-effective "combination of signs and commitment" was able to significantly change drivers' behaviour and reduce "engine idling incidence by 27% and idling duration by 78%". It should be noted that using only prompts was not as effective as the use of prompts along with drivers' commitment (Tools of Change, 2004).

Commitment & Sustainable Behaviour

I, _____, understand that feeding wildlife creates health problems for the animals and may create danger for humans.

I agree not to feed the wildlife.

Figure 199. Visitors entering a wildlife site can be asked to sign this commitment form (adapted from Winter, 2007, p.36). Notably, a commitment is effective when obtained **before** the target-behaviour takes place (Baca-Motes et al, 2013) (e.g. during hotel check-in, or while entering a wildlife site, or generally before a touristic experience begins).

Interestingly, "[e]ven a small, seemingly trivial commitment can have a powerful effect on future actions." (Cialdini, 2001, p.76). Indeed, as Dolan et al (2012, p.271) argue, "commitment devices do not depend on tangible penalties or rewards for their behavioural effects. *Even the very act of writing a commitment* can increase the likelihood of it being fulfilled" [my italics].

Here, one could distinguish a common point of reference with what Kettle et al (In: Payne, 2012, p.92) describe as the "signature effect":

> "Your signature influences your behaviour. It's as simple as that – the mere act of signing affects your subsequent behaviour. It doesn't matter what your signature is, only that you inscribe it." (Payne, 2012, p.92).

4.4   Conclusions from Chapter 4

Based on the above, the project's overall aim to further Sustainable Tourism by influencing the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly practices, has to be realised in conjunction with the need to challenge the conventional over-reliance on cognitive models of behaviour-change by employing contemporary, contextual approaches to changing human behaviour.

This means that providing tourists visiting Cornwall with key facts about environmental and social concerns is not something pointless or worthless but, based on the findings from contemporary academic literature, this Chapter suggests that behaviour-change interventions that remain only on a factual-information/declarative-knowledge provision level will most likely be limited in encouraging sustainable behaviour from tourists visiting Cornwall.

Therefore, this research project aims at furthering Sustainable Tourism not by educating tourists visiting Cornwall into behaviour change, but by nudging them into sustainable behaviour: utilising contextual factors that impact on visitors' behaviour in "mostly automatic (rather than deliberate) ways" (Dolan et al, 2012, p.264).

Having said that, since Chapter 3 has established that Sustainable (Communication) Design is this project's medium for changing human behaviour, and since this Chapter has established that utilising contextual factors from Behavioural Economics (MINDSPACE model and Six Principles of Persuasion) can significantly increase the likelihood of people responding positively to a request, then the question that arises here is: what kind of delivery platform would be appropriate for applying those influence strategies in order to support and improve the persuasiveness of CoaST's One Planet Tourism Network sustainability-communications with their visitors?

Chapter 5: A practical application of the 'Elements of Persuasion' in the context of Sustainable Tourism

5.1 Summary of Chapter 5

Keywords: *Design Criteria, Co-Design, Elements of Persuasion, Communication Design Opportunities, Linguistic Devices, Objects of Communication.*

Based on conclusions drawn from a wide multi-disciplinary literature review, this Chapter establishes the design criteria as a starting point for design engagement. This means that key issues/barriers/needs identified from in-depth analysis of primary and secondary sources are brought to light and establish this project's design criteria that, in turn, are translated into a conceptual design response in Chapter 7.

Moreover, this Chapter introduces the 'Elements of Persuasion' table: an accessible summary of principles and techniques for communicating and influencing sustainable behaviour, that specifically builds upon Dolan et al's 2012 "MINDSPACE model" and Cialdini's 2007 "Six Universal Principles of Persuasion" and generally upon a synthesis of insights from a wide multi-disciplinary literature review such as Behavioural Economics, Social Sciences, Environmental Psychology, Neuroscience, and Community-based Social Marketing.

In turn, this Chapter revisits in a simple and comprehensive manner the main idea behind each influence factor of the 'Elements of Persuasion' table, and considers its practical application and the (communication) design opportunities it enables for promoting Sustainable Tourism in Cornwall. By doing so, this Chapter strengthens the case for design's role in furthering sustainability and clarifies the project's path to promoting Sustainable Tourism.

The main argument this Chapter unfolds is that by **adding**[102] science-based influence factors to an initial behavioural request, increases the likelihood of persuasion (i.e., people responding to the request). Notably, as Kaptein (2012, p.21) argues, "not every context or medium allows for the interchangeable usage of several [persuasion] strategies"; an argument that justifies why some contextual factors from 'Elements of Persuasion' were found difficult to implement in the context of language-based communications and, thus, were excluded from further exploration in this thesis.

Last, this Chapter informs the design response described in Chapter 7 by:

- considering the feedback from Cornish accommodation providers on the potential use of the various elements of persuasion in their communication with tourists visiting Cornwall.
- translating various Elements of Persuasion into applicable objects of text-based communication (i.e., linguistic devices).

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[102] The physical and mental properties of 'adding' are translated into the core functionality of the project's design response in Chapter 7.

5.2   Design Criteria

According to Walker (2006, p.186), the design process involves "a clear understanding of intentions and a set of design criteria". In-depth analysis of primary sources (online surveys, personal interviews, workshops, sandpit/focus groups) and secondary sources (wide multi-disciplinary literature review), revealed opportunities for design engagement. This means that issues/barriers/needs are brought to light and establish this project's design criteria that, in turn, are translated into a conceptual design response (see Chapter 7).

In other words, whatever form the final design response may finally take, it must satisfy this established list of design criteria. In short, the design criteria are the designer's intentions; what the analysis of primary and secondary sources prompts the design researcher to explore. This practice-based research project challenges the way conventional communications about sustainable behaviour are designed and articulated, and creates a design response that satisfies the project's overall aims by:

- following a systemic, Design Thinking approach:
  - o   Chapter 3 illustrates the need to challenge the industry's typical overreliance on a tangible artefact as the 'solution' to an issue, and adopt contemporary, Sustainable Design approaches (intangible, dematerialising, community-based solutions) by considering Design not just a way of doing, but also as a way of thinking.

- nudging tourists into Sustainable Behaviour:
  - o   Chapter 4 identifies the need for a different approach on changing human behaviour; one that challenges the conventional overwhelming reliance on cognitive approaches that considers humans as rational actors (thus, educating/informing people into change). On the contrary, this thesis employs contemporary, contextual approaches and considers humans as social animals (nudging people into change by making use of human irrationality). By doing so, this thesis addresses the gap in literature due to the limitations of conventional behaviour change approaches.
  - o   Moreover, this design criterion derives from the identified need for a design response that, as comments and feedback from representatives of the Cornish tourism establishment requested, avoids conventional 'old-school' approaches to behaviour-change. A design response that avoids telling people what to do in preachy, finger-pointing, condescending ways but carefully applies a tone of language that matches the subject matter and respects tourists' sense of behavioural freedom (thus, not 'forcing' sustainable behaviour).

- engaging tourists' intrinsic (Self-Transcendent) values:
  - Chapter 3 illustrates the need for a values-based approach; one that challenges conventional overreliance on extrinsic (Self-Enhancing) values, and exercises people's intrinsic (Self-Transcendent) values.
- building upon the 'Elements of Persuasion' table: an accessible summary of principles and techniques for communicating and influencing sustainable behaviour, that specifically builds upon Dolan et al's 2012 "MINDSPACE model" and Cialdini's 2007 "Six Universal Principles of Persuasion", and generally upon a synthesis of insights from a wide multi-disciplinary literature review such as Behavioural Economics, Social Sciences, Environmental Psychology, Neuroscience, and Community-based Social Marketing.
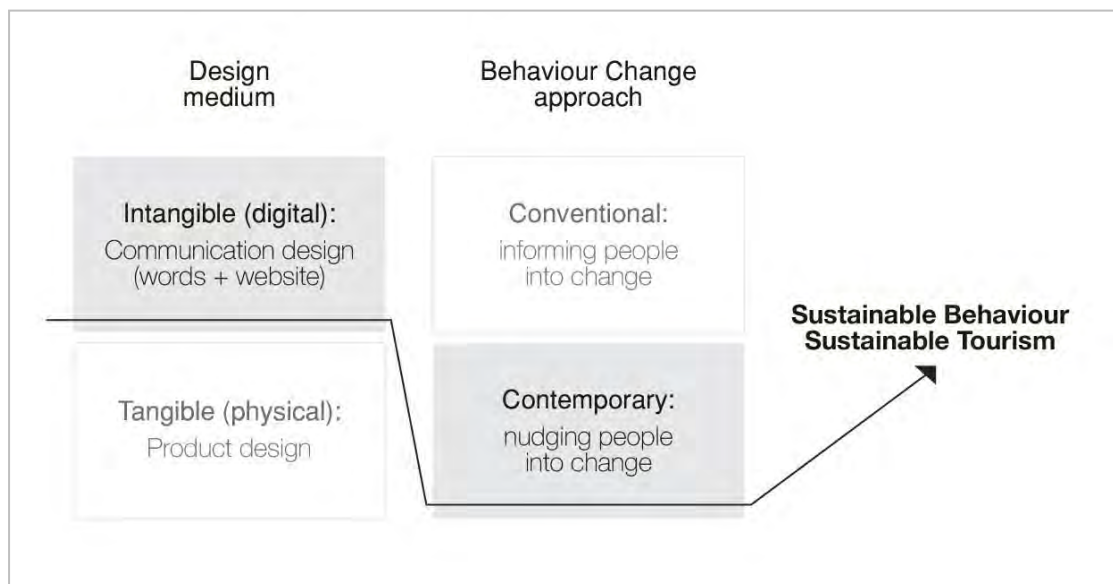
Figure 200. The project's path to furthering sustainability in tourism.

5.3 Elements of Persuasion

The following table aims to serve as an accessible summary of principles and techniques for Communicating and Influencing Sustainable Behaviour. It is important to note that this table is directly informed by multi-disciplinary areas such as Behavioural Economics (Dolan et al's 2012 MINDSPACE model), Social Science (Cialdini's 2007 Six Universal Principles of Persuasion), Environmental and Social Psychology, Community-based Social Marketing, and their developed understandings of what it takes to change human behaviour.

Figure 201. Elements of Persuasion (small size).

Elements of Persuasion*

Messenger (principle of Authority)

Can you display cues of credibility and expertise? Is your messenger perceived as likeable and trustworthy by your message-receivers?

(Dolan et al. 2012; Payne, 2012; Cialdini, 2007; McKenzie-Mohr et al, 1999)

Incentives (principle of Scarcity)

Can you highlight losses which occur as a result of inaction rather than emphasise gains as a result of changing behaviour? (a.k.a Loss Language)

(Dolan et al. 2012; James, 2010; Cialdini, 2007; McKenzie-Mohr et al, 1999; Kahneman et al, 1979)

Norms (principle of Consensus)

Can you point out that many (similar) others are already doing the right thing? (or emphasise that only a minority of people are acting undesirably?)

(Dolan et al. 2012; Payne, 2012; Allcott, 2011; Griskevicius et al, 2008; McKenzie-Mohr et al, 1999)

Defaults (Choice Architecture)

Can you set the 'green' choice as the pre-selected option? (a.k.a Libertarian Paternalism)

(Dolan et al 2012; Payne, 2012; Araily, 2008; Thaler & Sunstein, 2008; Johnson & Goldstein, 2003)

Priming

Can you display cues of people being watched? Can you expose people to images, words, smells, sounds related to environmental conservation?

(Lockton, 2013; Dolan et al. 2012; Metcalfe et al, 2012; Payne, 2012; Burn et al, 2007; McKenzie-Mohr et al, 1998)

Commitment (principle of Consistency)

Can you obtain a written, voluntary, and publicly expressed commitment about practicing a specific pro-environmental behaviour?

(Baca-Motes et al, 2013; Dolan et al. 2012; Cialdini, 2007; Burn et al, 2007; McKenzie-Mohr et al, 1998)

Simplicity

Can you keep your message simple and avoid over-loading it with information?

(Futerra, 2013; Payne, 2012; Metcalfe et al 2012; Ariely, 2008; Iniliss, 2003)

Specificity

Can you be explicit about the specific steps needed to achieve the desired behaviour?

(John McNeIgh et al, 2013; Lockton, 2013; James, 2010; Wilkinson et al, 2008)

Capturing Attention (Salience)

Can you capture people's attention and get your message noticed? Can you employ humour and/or moderate levels of scare tactics?

(Corner, 2012; IDEO, 2011; James, 2010; Burn et al, 2007; McKenzie-Mohr et al, 1999; Fleming et al, 1993)

Validation (Emotional Intelligence)

Can you explicitly acknowledge people's:
- complaints & barriers to compliance
- freedom of choice?

(Pink, 2014; Carpenter, 2013; Konrad et al 2011; Werrsu cLab, 2009; Guagnan et al 2003)

Personalisation

Can you make your request relevant to the individual, therefore "binding [them] into a sense of ownership" of environmental protection?

(Lockton, 2013; Futerra, 2013; Payne, 2012; p.93; James, 2010; Gardor, 2005)

Reasoning (Intrinsic Values)

Can you provide self-transcendent (beyond-self) reasons for your request?

(Walker, 2014; Knowles, 2013; Sussman et al, 2012; Corner, 2012; Crompton, 2010)

Mental Badge

Can you address your audience as if they do care about the climate (therefore nudge them to see themselves in that way)?

(Futerra, 2013; James, 2010; Goldstein et al, 2007)

Empowering Communication

Can you avoid telling people what NOT to do? Can you use positive wording and "emphasise that behaviour change will be effective"?

(Corner, 2012; Sussman et al, 2012; James, 2010; Burn et al, 2007; p.40; McKenzie-Mohr et al, 1999)

Knowing the Audience

Can you tailor your message to your intended audience? (e.g. according to their perceived issue importance)?

(Futerra, 2013; Chilton et al, 2012; Corner, 2012; Konrad et al, 2011; Burn et al, 2007; McKenzie et al, 1999)

Kairos (the opportune moment)

Can you place your message "as close in time and space as possible to the targeted behaviour"?

(Lockton, 2013; Sussman et al, 2012; Payne, 2012; James, 2010; Burn et al, 2007; p.30; Inslie, 2000)

(*) An accessible summary of Tools, Principles & Techniques for Communicating and Influencing Sustainable Behaviour, drawing upon multi-disciplinary literature such as Behavioural Economics (MINDSPACE model), Social Science, Environmental and Social Psychology, Community-based Social Marketing, etc.

5.4   Sustainable tourism by (communication) design

Based on the insights from Chapters 3 and 4, this practice-based design research argues that by **adding** 'Elements of Persuasion' to a behavioural request increases the likelihood of people (tourists) responding to the request (see Figure 202). This structural pattern is unfolded in detail here because it provided a conceptual basis for developing the main functionalities of the final User-Interface (UI) design (see Chapter 7).

Moreover, the following sections revisit, in a simple and comprehensive manner, the main idea behind each influence factor of the 'Elements of Persuasion' table, and consider its practical application and the (communication) design opportunities it enables for promoting Sustainable Tourism in Cornwall; by doing so, this section strengthens the case for design's role to furthering sustainability.

behavioural request **+**

M:	messenger
I:	incentives
N:	norms
D:	defaults
S:	salience
P:	priming
A:	affect
C:	commitments
E:	ego
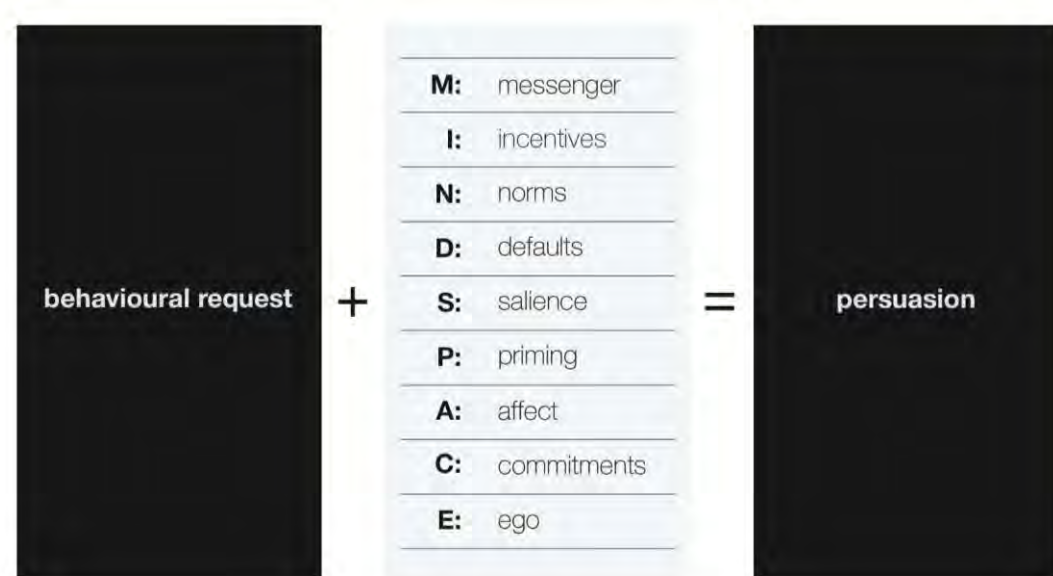
= persuasion

Figure 202. Adding influence factors to a behavioural request increases the likelihood of persuasion.

5.4.1   Messenger

As discussed in Chapter 4, the basic idea behind the influence strategy of 'Messenger' is that by demonstrating expertise and credibility in a behaviour-change initiative increases the likelihood of people engaging in the requested (sustainable) behaviour.

This quirk (automatic, irrational response) of human behaviour enables (communication) design opportunities for furthering Sustainable Tourism. More specifically, designers can utilise this behavioural insight from Dolan et al (2012), Payne (2012), Cialdini

(2001), McKenzie-Mohr et al (1999), and McLuhan (1964), and design behaviour-change interventions that display cues of credibility and expertise, and also utilise a medium (source/messenger) that can be perceived as likeable and/or trustworthy by the target audience.

Therefore, based on the case-study examined in Chapter 4, **adding** the contextual factor of 'Messenger' (Authority) to a behavioural request, and thus displaying cues of credibility and expertise, can be more persuasive in influencing tourists visiting Cornwall than a request focusing solely on information provision (educating users) without considering the perceived authority/likeability of the source (the messenger) of that information. Here, an opportunity for design to promote touristic behaviour-change (and thus further sustainable tourism) arises, not by informing (educating) visitors to sustainable behaviour, but by nudging ('authoritating') visitors to sustainable behaviour.
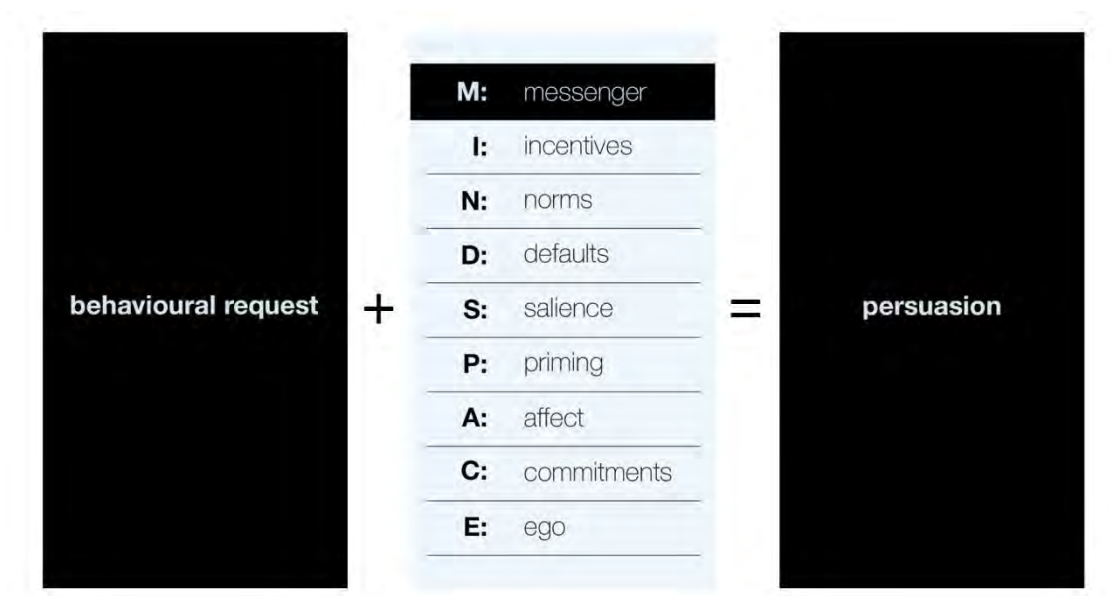
Figure 203. Adding the influence factor of 'Messenger' to a behavioural request increases the likelihood of persuasion.

So, how can we best display credibility/expertise/authority in the context of text-based communications? First, it is important to understand that, as Kaptein et al (2012, p.12) argue, "not every context or medium allows for the interchangeable usage of several [persuasion] strategies." For example, Webb and Sheeran (2006) explain that a doctor can display their credibility and expertise (trustworthiness) through the diplomas on their wall or even through their distinguished clothing (white robe). But text-based communication is more challenging to display 'Authority' because "there is no clear actor in play that receivers of the message could relate to" (Kaptein et al, 2012, p.9); additionally, there is a lack of "facial expression and

other subtle forms of nonverbal communications" (Walker, 2014, p.129) where employing Authority could be most effective. Therefore, given our delivery medium, one way to display Authority in text-based communications is through the source of the message, i.e., the Messenger. This means that through the embedded name, signature, symbol (logotype), credibility and expertise can be displayed (Miller, 2012).[103]

5.4.2 Incentives

As discussed in Chapter 4, the basic idea behind the influence strategy of 'Incentives (Loss Language)' is that by framing a message in terms of what people stand to *lose* if they don't engage in the requested behaviour, rather than appealing to what people will *gain* if they do act on the behavioural request increases the likelihood of persuasion.

This quirk of human behaviour enables (communication) design opportunities for furthering Sustainable Tourism. More specifically, designers can utilise this behavioural insight from Dolan et al (2012), Futerra (2010), Cialdini (2001), McKenzie-Mohr et al (1999), and Kahneman and Tversky (1979), and create behaviour-change interventions that highlight losses which occur as a result of tourists' inaction rather than emphasise gains as a result of changing behaviour.

Therefore, based on the case-study examined in Chapter 4, **adding** the contextual factor of 'Incentives (Loss Language)' to a behavioural request, and thus highlighting losses rather than gains, can be more persuasive in influencing tourists visiting Cornwall than a request focusing solely on educating users through information provision. Here, an opportunity for design to promote touristic behaviour-change (and thus further sustainable tourism) arises, not by informing (educating) visitors to sustainable behaviour, but by nudging (incentivising) visitors to sustainable behaviour. In regards to holiday transportation, for example, Metcalfe et al (2012, p.504) argue that taking into consideration the behavioural insight that "people are more sensitive to losing 10min on a travel journey than gaining 10min on a travel journey", could be a useful starting point for initiating behaviour-change initiatives. Respectively, from a Social Marketing viewpoint, Cialdini (2007) argues: "it may be worthwhile

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[103] This may not be something new for communication experts and branding/advertising campaigners, but let us remember that the project's webtool is primarily targeted for an audience that does not necessarily have (persuasive) communication skills. This means, that by default, we consider the primary user as someone with little or no skills in (persuasive) communication. That is why, as we discuss in Chapter 7, one of the key features of 'Triggers for Change' webtool is to make the powers of persuasion accessible in digested and user-friendly way, without requiring any communication skills from its users. That is why the webtool is designed to provide the persuasive power of authority through a single click of a button.

to switch your advertising campaign's message from your product's benefits to emphasizing the potential for a wasted opportunity"; using phrases such as:

- "Don't miss this chance…"
- "Here's what you'll miss out on…"

Based on the above, an example (see also Figure 205) of a leading linguistic device deriving from this persuasion strategy for the context of Sustainable Tourism, can be:

- *'This is what you stand to lose if you behave unsustainably'* (rather than *'This is what you will gain if you behave sustainably'*).
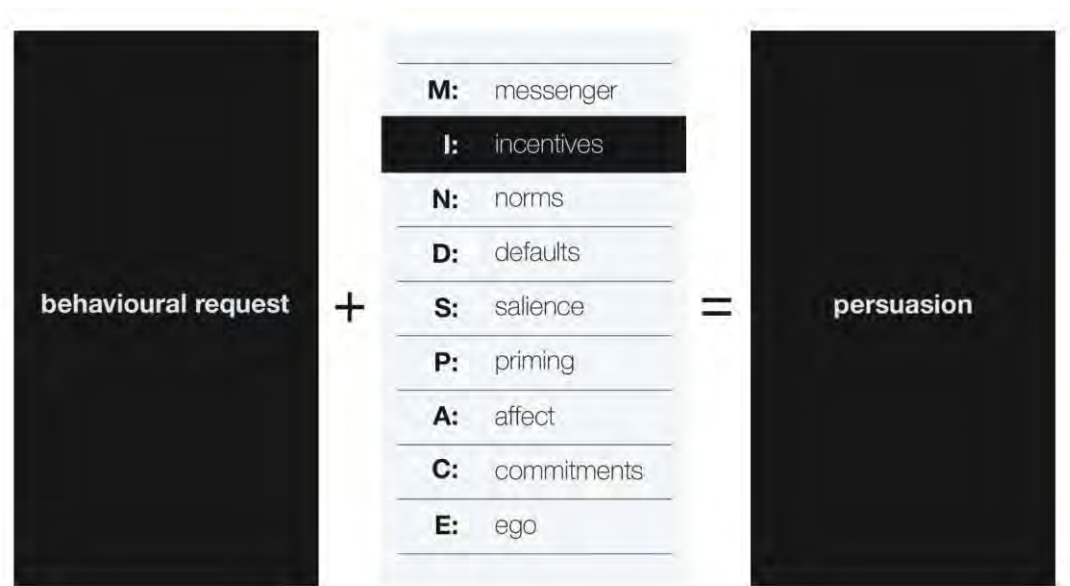
Figure 204. Adding the influence factor of 'Incentives' to a behavioural request increases the likelihood of persuasion.
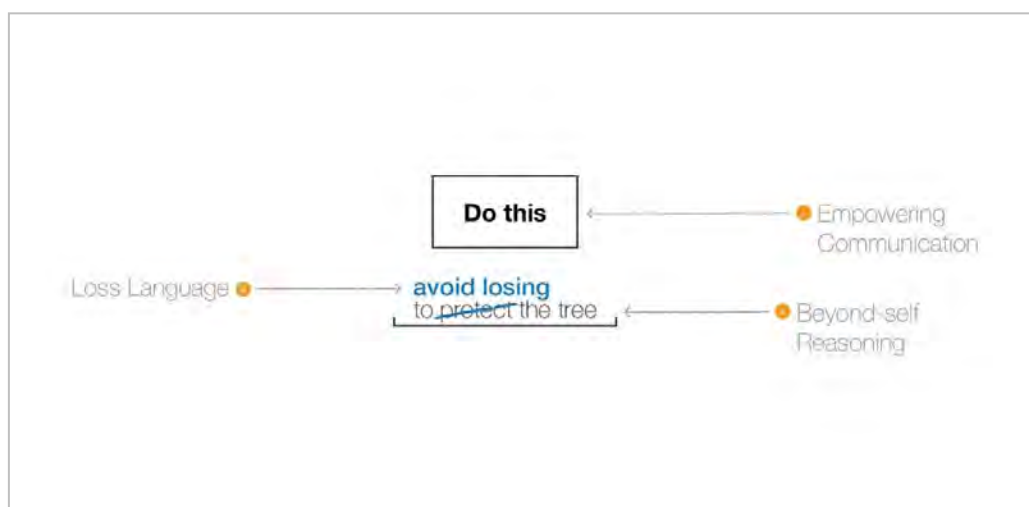
Figure 205. Employing the Loss Language based on a synthesis of insights from literature review.

5.4.3 Norms

As discussed in Chapter 4, the basic idea behind the influence strategy of 'Norms' is that by making visible that many similar others are already doing the 'right' thing, social pressure is placed upon the individual and that, in turn, influences them to engage in the intended 'appropriate' behaviour.

This automatic response of human behaviour enables (communication) design opportunities for furthering Sustainable Tourism. More specifically, designers can utilise this behavioural insight from Dolan et al (2012), Payne (2012), Allcott (2011), Griskevicius et al (2008), and McKenzie-Mohr et al (1999), and create behaviour-change interventions that employ descriptive and injunctive social norms by pointing out that many tourists visiting Cornwall are already doing the 'green' thing, and/or emphasizing that only a minority of visitors are performing the unsustainable behaviour.

Therefore, based on the case-study discussed in Chapter 4, **adding** the contextual factor of 'Norms' to a behavioural request can be more persuasive in influencing tourists visiting Cornwall to engage in pro-environmental behaviour, than a request that focused solely on environmental conservation. Here, an opportunity for design to promote touristic behaviour-change (and thus further Sustainable Tourism) arises, not by informing (educating) visitors to sustainable behaviour, but by nudging ('norm-ing') visitors to sustainable behaviour.
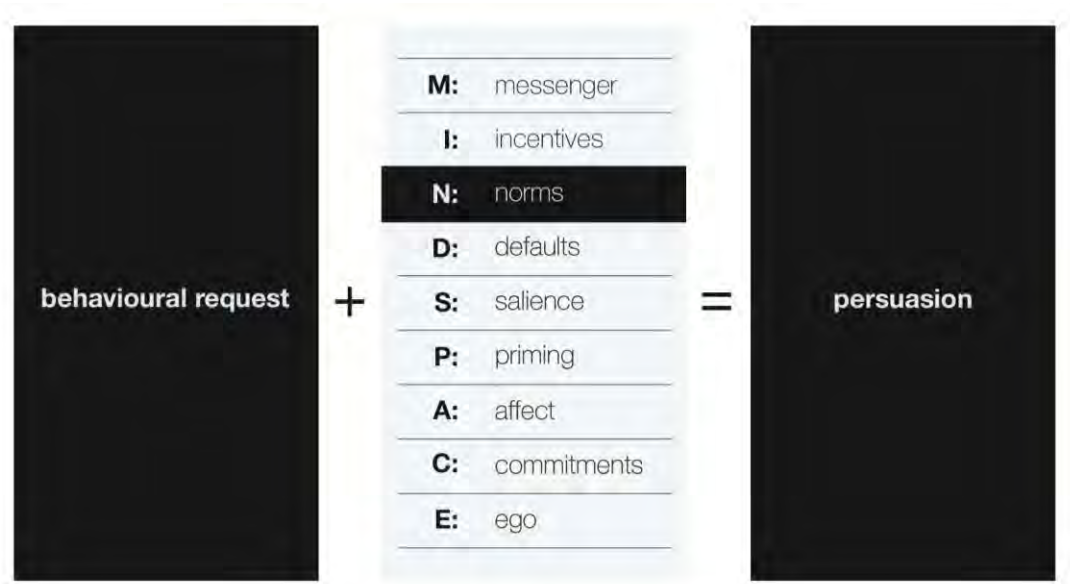
Figure 206. Adding the influence factor of 'Norms' to a behavioural request increases the likelihood of persuasion.

Based on the above, examples of leading linguistic devices deriving from this persuasion strategy for the context of Sustainable Tourism, can be:

- *'Most of your fellow travellers are already engaging in the green behaviour'*
- *'The majority of our visitors reuse their towels'.*

For example, the sustainability signs displayed below make visible to tourists visiting Cornwall that the 'green' behaviour is commonly practiced amongst other most members of the tribe.
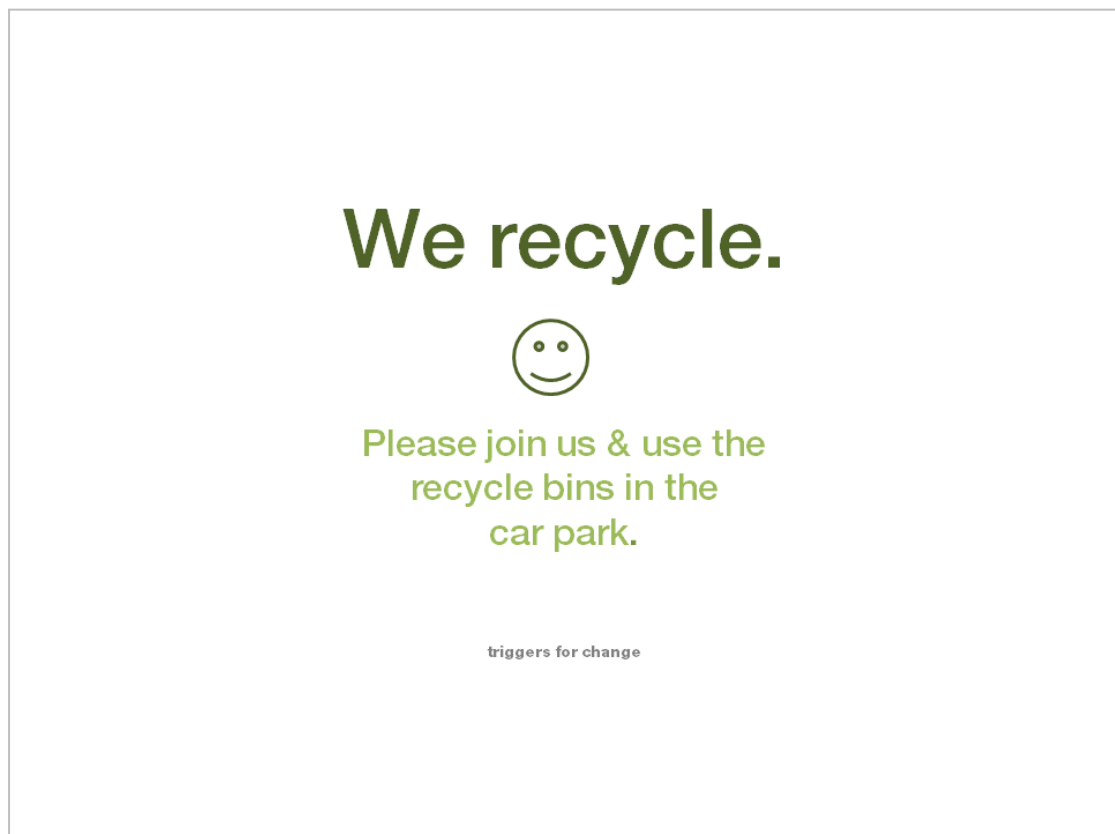
Figure 207. A simple example of a sustainability sign that employs the influence strategy of Social Norms.

Figure 208. A simple example of a sustainability sign that employs the influence strategy of Social Norms.

Figure 209. A simple example of a sustainability sign that employs the influence strategy of Social Norms.

Moreover, conducting personal interviews with Cornish Tourism businesses was an opportunity to collect the industry's feedback on certain 'Elements of Persuasion'. For example, in regards to conceptual signs employing the influence strategy of 'Social Norms', Cornish accommodation-providers characteristically raised their comments and suggestions:

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"I think the [...] "most hotel guests staying in this room" one, you'd get the cynical guests saying: 'well, prove it' [or] say: 'Oh, well they just printed a whole lot of these cards, it says this in every room, it doesn't really make my room feel special', whereas I think the guest house [referring to the 'In this guest house, we recycle' sign], the larger population, it's like: we're in this together, we're coming to stay in Falmouth because Falmouth likes green visitors and we want to be a green visitor, or we're staying in this guest house and there is a population here we want to communicate with." (Personal Interview E)

"I would look at [the message] and think 'That's cool', you know, they've recognized it, they're doing something about it and I would say 'Fantastic'. But in my knowledge, I just know there's an awful lot of people that would just say 'That's you just trying to be mean and you're just trying to deprive us of what we've paid for. You're not actually doing anything for the environment, you just trying to be cheapskate, and I'm not subscribing to that'. There is an element of the population who would actually look at that [body gesture: pointing at the sign] and say stuff like that, you know, 'You just don't want us to enjoy our holiday'. But for me that [sign] would be great." (Personal Interview B)

"This message sounds a little bit authoritarian because it's comparing – it's almost like with children, 'He's a good boy because he washes his hands before he eats so make sure you wash your hands', you know? If I was a parent I wouldn't be saying that, I would say 'You need to wash your hands because of the germs [providing more information about the facts] rather than saying do it because he is doing it."
(Personal Interview C)

"And I think, 'Yes, this is great', but it's starting to feel a little bit 'I am actually fed up with this green thing now. I've said I'm gonna be good, I've got this thing in my room, I've got a pat on the head, good boy, but I don't necessarily need to part of the club" [laughs]." (Personal Interview B)

5.4.4 Defaults

As discussed in Chapter 4, the basic idea behind the influence strategy of 'Defaults' is that by setting the desired (sustainable) behaviour as the pre-selected choice, most people will go along with that option.

This irrational response of human behaviour enables (communication) design opportunities for furthering Sustainable Tourism. More specifically, designers can utilise this behavioural insight from Dolan et al (2012), Payne (2012), Ariely (2009), Thaler and Sunstein

(2009), and Johnson and Goldstein (2003), and create behaviour-change interventions that set the 'green' choice as the default option. Thus, by "presenting choice in favour of sustainability" (Payne, 2012, preface) tourists visiting Cornwall can be defaulted into sustainable behaviour.

Therefore, based on the case-study discussed in Chapter 4, **adding** the contextual factor of 'Defaults' to a behavioural request, and thus setting the 'green' behaviour as the default option can be more persuasive than a request that focused solely on information provision (educating users). Here, an opportunity arises for design to promote touristic behaviour-change (and thus further sustainable tourism), not by informing (educating) visitors to sustainable behaviour, but by nudging ('defaulting') visitors to sustainable behaviour.
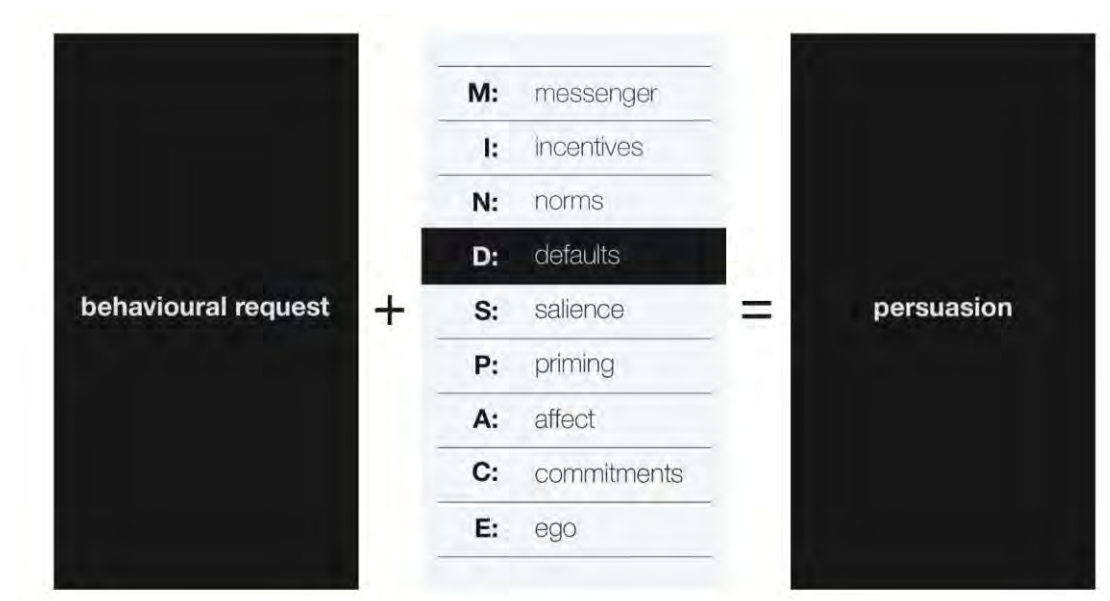
Figure 210. Adding the influence factor of 'Defaults' to a behavioural request increases the likelihood of persuasion.

Based on the above, an example of a leading linguistic device deriving from this persuasion strategy for the context of Sustainable Tourism, can be:

- *'This is what we do (in Cornwall; in our hotel); we will continue doing so <u>unless</u> you choose to opt-out'.*

For example, James (2010, p.9) explains: "we have a tendency to go along with the default option. By changing this default we can promote sustainable behaviours. So, make double-sided printing the default setting; place the organic/local/low packaging food item at eye level. Thaler and Sunstein call this 'libertarian paternalism', and encourage us all to be 'choice architects'."

Respectively, the sign below sets resource conservation and environmental stewardship as the default choice. The sign notifies hotel guests that due to the hotel's effort to promote environmental conservation, they do not change visitor's bed linen (default status) unless guests indicate their desire to do so (opt-in), by placing the card on their bed (guests affirmatively choosing to opt in). In this way, a hotel visitor has always the opportunity to have their bed-linen changed if they wish, and the hotel by switching their default status from 'changing bed-linen' to 'not-changing bed linen (unless requested)', may significantly reduce their resource-consumption and promote significant pro-environmental and economical benefits.

Please place this card on
your bed if you want your
bed linen changed today.

triggers for change
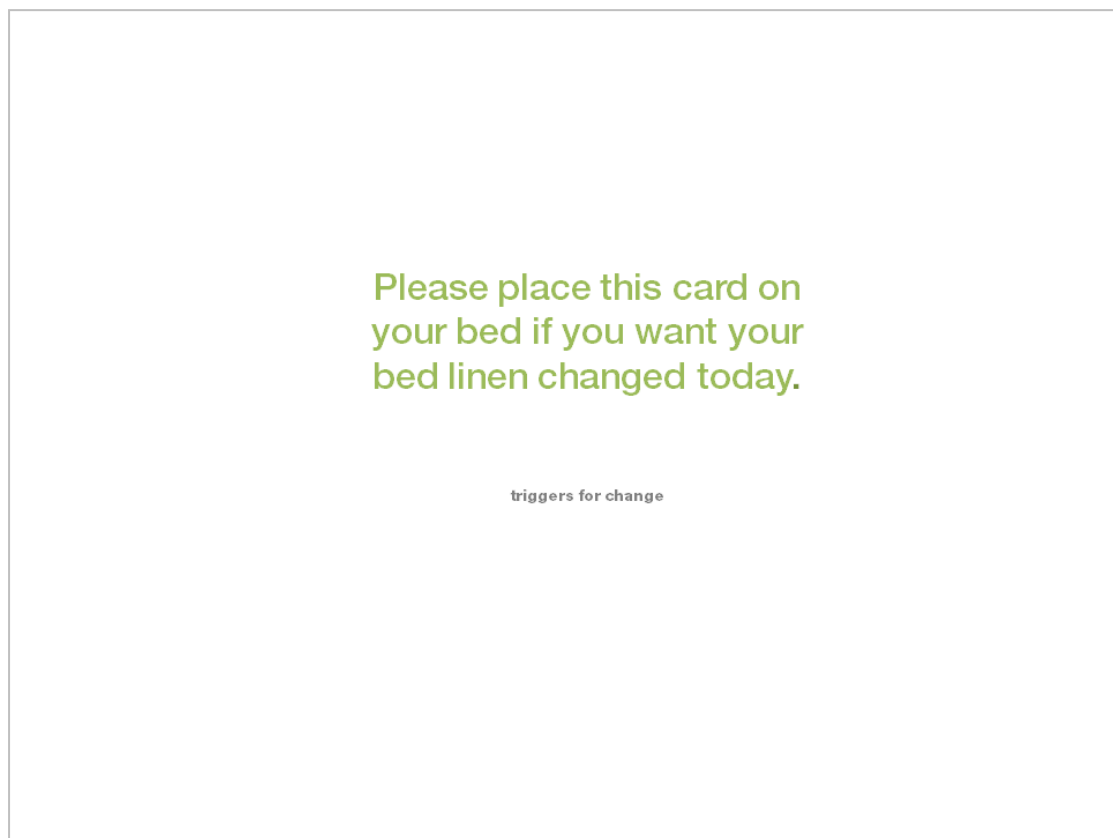
Figure 211. A simple example of a sustainability sign that employs the influence strategy of Defaults.

Moreover, conducting personal interviews with Cornish Tourism businesses was an opportunity to collect the industry's feedback on certain 'Elements of Persuasion'. In regards to conceptual signs employing the influence strategy of 'Defaults', Cornish accommodation-providers characteristically raised their comments and suggestions:

> *"I actually quite like the idea because it puts a lot of emphasis on the guest without telling them to do something. It's inviting them to do something – and I like the word invite. [...] but I think*

you have to think were you're going to put that. When a guest comes into the room in the evening, they tend to put their things everywhere [...] this could be covered over so they're going to have to look for that in the morning to have their bed changed. [...] it's a prompt, it's a memory prompt, so they've got to find it, they've got to remember to put it on the bed to have their bed changed, or they might say 'Oh, our bed is a bit scruffy today, we need it changed, where did you put that card?' So, it's where are you going to place that card, it's not just having it, it's where it's going to be." (Personal Interview C)

"Yes, I mean this is exactly what we do, so it's something we find works."
(Personal Interview E)

"I think that it's great. To me, if I was staying in a hotel more than one night, I would never expect my bed linen to be changed. I personally would not think that this was acceptable. I think it's wasteful and I would definitely opt out [...] Personally, if I saw that, it would give the hotel a bravo point-tick, that they actually considered to do that." (Personal Interview B)

5.4.5 Priming

As discussed in Chapter 4, the basic idea behind the influence strategy of 'Priming' is that exposing people to certain sensations (i.e., images, words, smells, sounds, touch) can trigger automatic responses and, thus, influence their subsequent behaviour. "In other words, people behave differently if they have been 'primed' by certain cues beforehand." (Payne, 2012).

This quirk of human behaviour enables (communication) design opportunities for furthering Sustainable Tourism. More specifically, designers can utilise this behavioural insight from Bateson et al (2006), and Metcalfe et al (2012), and create behaviour-change interventions that purposefully display cues of being watched in order to prime tourists visiting Cornwall into sustainable behaviour.

Therefore, based on the case-study discussed in Chapter 4, **adding** the contextual factor of 'Priming' to a behavioural request (by using an image of a pair of eyes) can significantly elevate visitors' compliance with a sustainability request. Here, an opportunity for design to promote touristic behaviour-change (and, thus, further Sustainable Tourism) arises, not by informing (educating) visitors to sustainable behaviour, but by nudging ('priming') visitors to sustainable behaviour.

behavioural request **+**

M:	messenger
I:	incentives
N:	norms
D:	defaults
S:	salience
P:	**priming**
A:	affect
C:	commitments
E:	ego
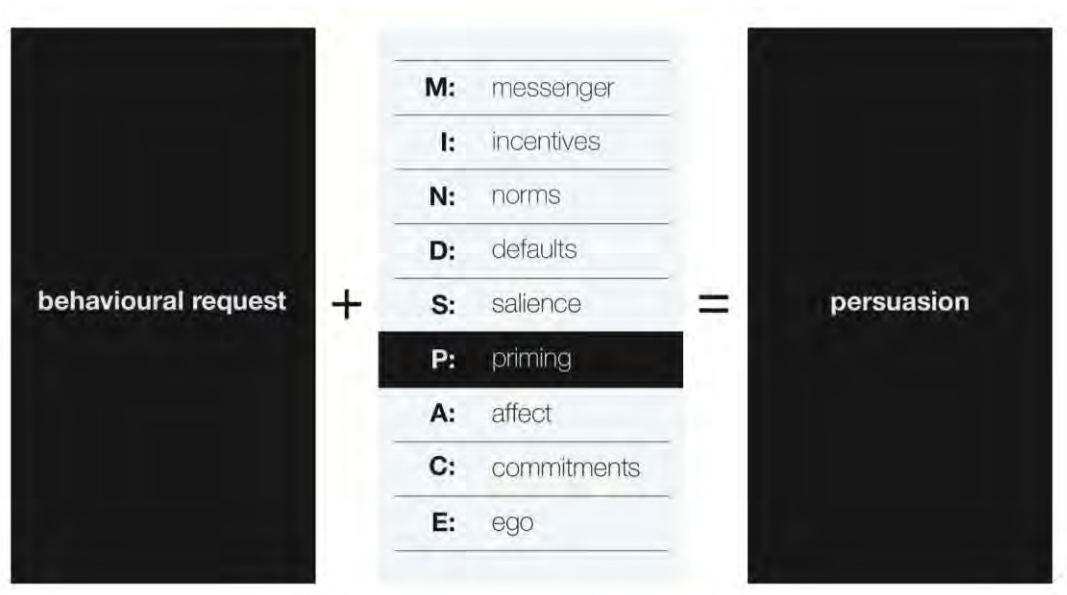
= **persuasion**

Figure 212. Adding the influence factor of 'Priming' to a behavioural request increases the likelihood of persuasion.

Based on the study of Bateson at al (2006), the following sustainability signs employ this behavioural insight from the area of Evolution & Human Behaviour in their communication of sustainable behaviour. Thus, these messages have been designed to a motivate pro-environmental behaviour from hotel visitors, by displaying an image of a pair of eyes looking directly at room-guests, and a written-text that invites them to the desired pro-environmental behaviour (turning unnecessary room-lights off).
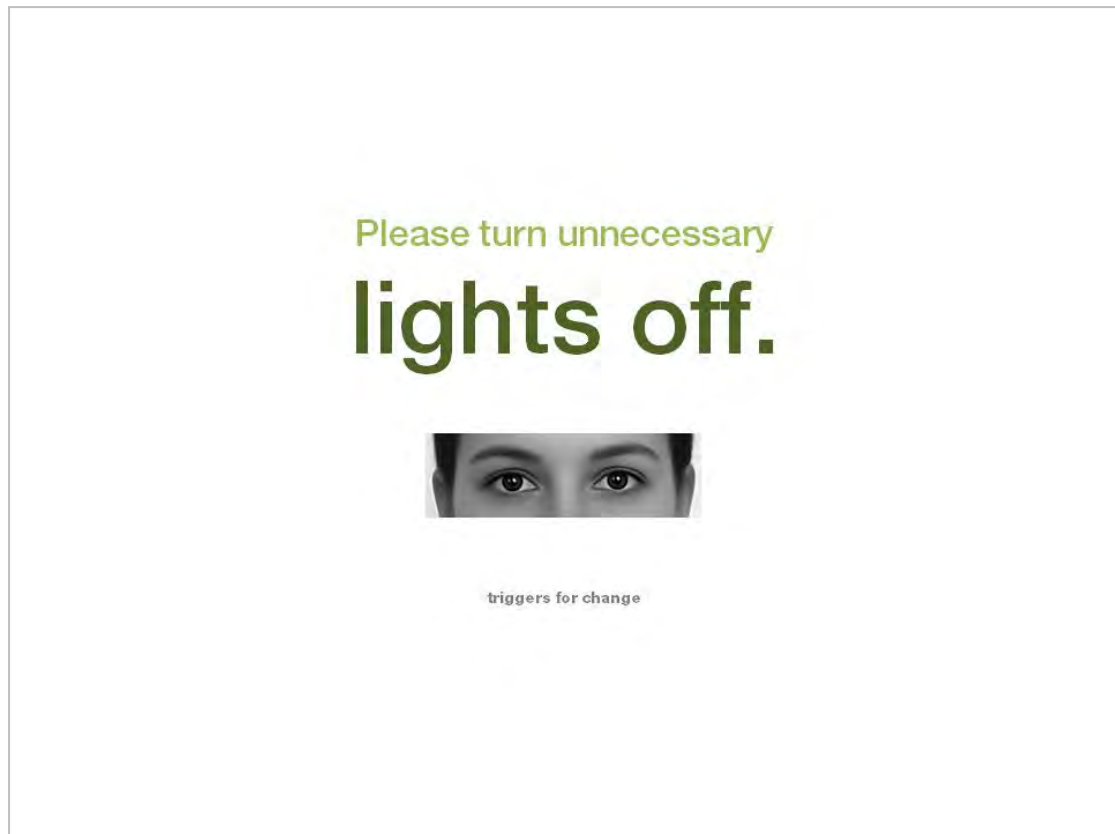
Figure 213. A simple example of a sustainability sign that employs the influence strategy of Priming.
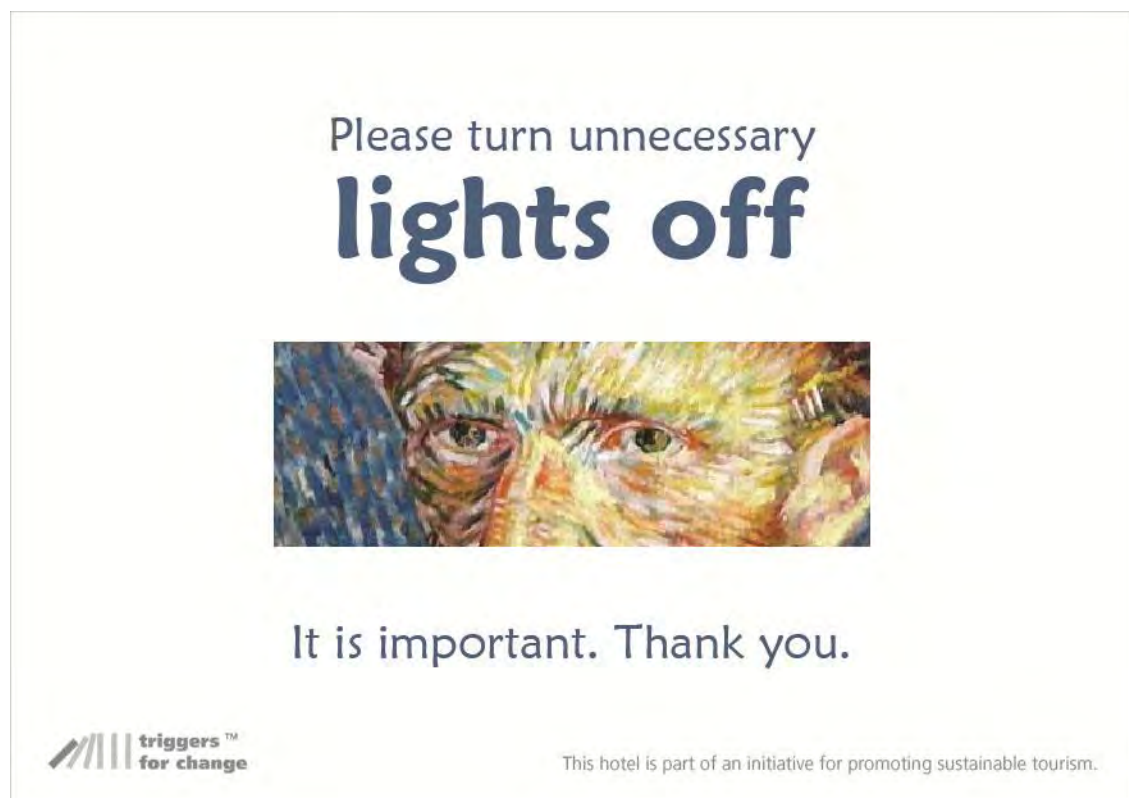
Figure 214. A simple example of a sustainability sign that employs the influence strategy of Priming.

Moreover, conducting personal interviews with Cornish Tourism businesses was an opportunity to collect the industry's feedback on certain 'Elements of Persuasion'. In regards to conceptual signs employing the influence strategy of 'Priming', Cornish accommodation-providers characteristically raised their comments and suggestions:

"I can see that it would work [...] If I really wanted to get the message across and make something happen, I would use it." (Personal Interview C)

"If I saw that I'd think "Oh, there's a man in the toilet spying on me. Go away!" [laughs] No, that's too 'big brother' for me." (Personal Interview B)

"... if you had let's say the Mona Lisa's eyes, then yes it would be very attractive but this one looks like a policeman or something. [...] Yes, try the Mona Lisa, those beautiful eyes, or the girl from the Vermeer paining. You could have a whole set of famous eyes from famous painters, and hoteliers could choose the one that suits their décor or whatever. I would definitely put something like that by my light switches because it's beautiful!" (Personal Interview D)

5.4.6   Commitment (Consistency)

As discussed in Chapter 4, the basic idea behind the influence strategy of 'Commitment' is that due to our "strong desire to be seen as consistent by others" (McKenzie-Mohr and Smith, 1999, p.163), when an individual makes a public commitment, they are more likely to fulfil it, in order to avoid "reputational damage" (Dolan et al, 2012, p.271).

This automatic response of human behaviour enables (communication) design opportunities for furthering Sustainable Tourism. More specifically, designers can utilise this behavioural insight from Baca-motes et al (2013), Dolan et al (2012), Burn et al (2007), and Cialdini (2007), and create behaviour-change interventions that obtain from tourists visiting Cornwall a written, voluntary and publicly expressed commitment to practice a specific pro-environmental behaviour, thus possibly affecting their subsequent behaviour during their holiday experience towards the desired sustainable behaviour.

Here, it has to be underlined that 'Commitments' can be indeed powerful in setting the tone for subsequent pro-environmental behaviour if they are properly employed. This means that 'Commitments' needs to be utilised at the beginning of a touristic experience (what Service Design calls "customer journey") in order to allow a committed behaviour to unfold *from* the commitment point and *onwards*. For example, Baca-Motes et al (2013) demonstrated that 'Commitment' is best used at check-in (a point that can be considered the beginning of a typical accommodation-provision experience).

In this way, as Goldstein et al (2008, p.64) describe in their book "Yes!: 50 scientifically proven ways to be persuasive", apart from explaining the benefits that derive from supporting a sustainability initiative, we are also asking visitors "whether they would support such an initiative and wait for a 'yes' in response." Because, as they explain, there is a huge difference in persuasion between telling someone: *'Please help me with these papers'*, and asking them *'Will you help me with these papers'*. Thus, a behaviour-change communication will be more effective if besides making tourists aware about the benefits of a specific pro-environmental behaviour, it also obtains a commitment from them. Here, an opportunity for design to promote touristic behaviour-change (and thus further sustainable tourism) arises, not by informing (educating) visitors to sustainable behaviour, but by nudging (committing) visitors to sustainable behaviour.

The sustainability form in Figure 216 is designed to be used at check-in to obtain a voluntarily and publicly expressed commitment from hotel visitors. Additionally, during the process of check-in, hotel reception staff could use the following verbal request before showing the 'green visitor statement' to visitors: 'We are proud to let you know that our hotel is committed to be environmentally friendly and promote sustainability in tourism. Would you like to join our hotel's effort to protect the environment by signing our 'green visitor' statement?.'

Figure 215. Adding the influence factor of 'Commitments' to a behavioural request increases the likelihood of persuasion.

I care about the environment.

As a green visitor, I will join ABC hotel's pro- environmental efforts & do my best to save energy and water by re-using my towels during my stay.

◯   ◯
Yes   *No, thank you*

triggers for change
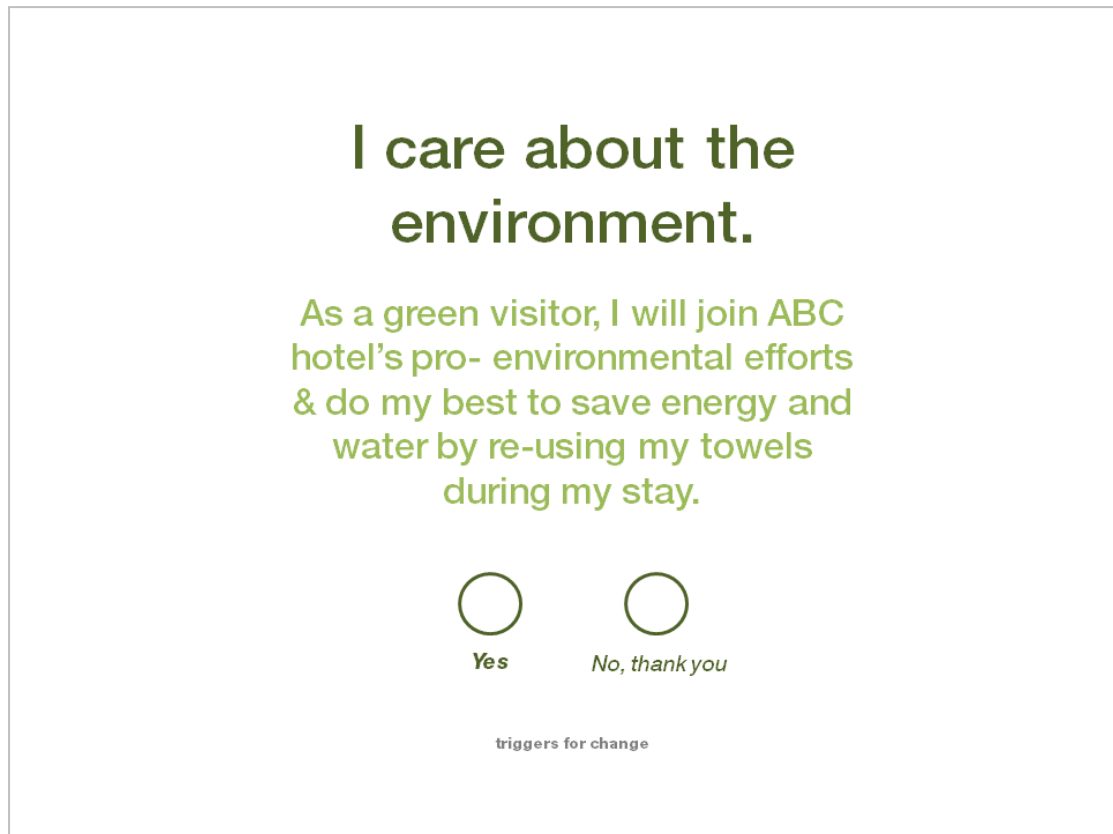
Figure 216. A simple example of a sustainability communication that employs the influence strategy of Commitment.

Moreover, conducting personal interviews with Cornish Tourism businesses was an opportunity to collect the industry's feedback on certain 'Elements of Persuasion'. In regards to employing the influence strategy of 'Commitment', Cornish accommodation-providers characteristically raised their comments and suggestions:

"I think some people would feel under pressure to tick 'Yes' regardless of what they think because they think that's how they need to be seen. […] I don't know if it would really work that well, I could just see people kind of saying yes, but not having actually much of an impact after that. I think this approach is putting our guests under pressure when we really want them to relax and be on holiday." (Personal Interview E)

"In theory this is great. Whether it works practically – I would sit here, thinking 'God, I've said I'm going to be green. Actually, I went out to the beach today or did a long country walk, I've had mud everywhere and I washed my hair and my towels are muddy, and they need to be changed.' And I'd be going [putting on a theatrical tone of voice] 'Oh, my god, I said I'd reuse my towels, I feel so bad. Actually, they are muddy and I need them changed. What am I going to do here?' [laughs]. (Personal Interview B)

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"I just feel that people turn up, perhaps they've had a long, busy journey, they just wanna get to their room, [...] and they might say 'No' initially. But if this is their room, they might say "Hmm, alright", having had a nap or a cup of tea, you know, they might reconsider this [tapping on the conceptual Commitment form]." (Personal Interview D)

"I do like that approach. [...] I wouldn't like the guest to feel shamed into doing it, - because you're standing there, behind a desk, there's a barrier there, you don't have to necessarily be taller but you are in a position of authority, and the guest is there as a guest and might feel pressure into doing that [...] It has got to depend on the receptionist, how the receptionist actually puts it across. The receptionist would have to be on board with it. And not roll their eyes, if they don't agree with it – 'I'm sorry but I have to ask you to fill this', you know, that's giving a very negative message. If they can positively say, 'Oh, here at ABC hotel we're doing our best to being environmentally friendly, we would appreciate if you could join us in our effort, have a read at that, do feel free to take it, but it's absolutely no problem if you'd rather not'. If you put it across like that the other person doesn't feel shamed into doing it. You can't have a mismatch of the verbal message and the written message that the receptionist is giving you."
(Personal Interview C)

5.4.7   Capturing Attention (Scare/Fun Tactics)

As previously discussed, the main idea behind the communication strategy of 'Capturing Attention' is to capture people's attention in order to get a specific message noticed. Based on the examples explored in Chapter 3, sustainability communications can achieve this by employing either humour or moderate levels of fear (Corner, 2012; IDEO, 2011; James, 2010; Burn et al, 2007; McKenzie-Mohr and Smith, 1999; Fleming et al, 1993); an approach that is utilised by this project.

5.4.8   Personalisation

As discussed in Chapter 3, the main idea behind the communication strategy of 'Personalisation' is to make sustainable behaviour relevant to an individual. This means to create messages that make environmental protection more personal, therefore "binding people into a sense of ownership" of environmental protection (Lockton, 2013; Pink, 2012; Payne, 2012, p.93; Garner, 2005).

In the context of text-based communications, this can be achieved by using the visitor's name instead of an impersonal 'Dear guest'. Additionally, handwriting their name, or even the whole behavioural request (Payne, 2012; Garner, 2005) is likely to increase visitors'

perception of personal responsibility and make them feel like 'taking ownership' of environmental protection. A relatively small nudge but with considerable potential in increasing people's response to the message-request (Payne, 2012; Garner, 2005). The sustainability sign below is designed to utilise this behavioural insight and nudge tourists visiting Cornwall into sustainable behaviour.

Figure 217. An example of a sustainability sign that employs the influence strategy of Personalisation.

Moreover, conducting personal interviews with Cornish Tourism businesses was an opportunity to collect the industry's feedback on certain 'Elements of Persuasion'. In regards to employing the communication principle of 'Personalisation', Cornish accommodation-providers characteristically raised their concerns and suggestions:

"I think this is good practice anyway. When you are communicating with a guest I think it's good to use first names. In big hotels it tends to be a bit more formal, when Mr. & Mrs. Jones checks in, it's Mr. & Mrs. Jones, you wouldn't say 'what are your first names? Can I call you Carol and Bob?' That has never happened to me in a large hotel. But here, we always introduce ourselves with our first names and our guests do the same." (Personal Interview C)

"... visitors can appreciate the fact that you've taken the time to write their name down, but in bigger hotels that would be so time-consuming, who's going to write down all those names?" (Personal Interview D)

"Personalising the experience is very important and it does have an impact. I think that people do appreciate that personal touch and care that goes into the communication. Obviously, in a hotel with a large number of bedrooms it's more difficult to do that, I think. [...] It just takes a bit of time because we have to tailor the messages to the individuals coming, but that's important because a person will read the message and not feel the person in the room next door has the exact same letter. That letter is for them about their visit and their stay, it's not the same letter that everyone is getting." (Personal Interview E)

5.4.9 Validation (Emotional Intelligence)

As discussed in Chapter 3, the basic idea behind the communication principle of 'Validation' is to disarm people's instinctive defensiveness to being told what to do (and thus reduce reactance towards a pro-environmental request) by *explicitly* acknowledging (instead of implying it):

- people's freedom of choice, and
- people's complaints and barriers to compliance.

Based on Pink (2014), Carpenter (2013), Tromp et al (2011), Kronrod et al (2011), Werner et al (2009), and Gueguen et al (2005), the following sustainability sign has been designed to reduce reactance and defensiveness towards recycling and, thus, elevate compliance, by acknowledging people's obstacles and complaints about recycling.

Please recycle.

It may be inconvenient but **it is very important.**

Please use the recycle bin provided below. **Thank you.**

triggers™ for change
This hotel is part of an initiative for promoting sustainable tourism.

recycle for Cornwall

Figure 218. An example of a sustainability sign that employs the influence strategy of Validation.

Moreover, conducting personal interviews with Cornish Tourism businesses was an opportunity to collect the industry's feedback on certain 'Elements of Persuasion'. In regards to conceptual signs employing the communication principle of 'Validation', Cornish accommodation-providers characteristically raised their comments and suggestions:

"I think it makes sense, definitely. In the context of our hotel we probably wouldn't use this message because we try to make things as easy as we can. So, with the recycling for example, we sit through the bins ourselves, we have recycling bins in the corridors, and we try to make it easy." (Personal Interview E)

" 'It may be inconvenient', this is negative, it's implying it's going to be a hustle. [...] I feel like it's saying "You need to shop, and it's going to be a hassle shopping in our little village shop", you know, "but it's important that you do", I don't think you should have this message. [...] in contrast to "It only takes a moment", "Can I take a few minutes of your day?" or something like that, implying it's not a lot of trouble". (Personal Interview D)

"I think that message sounds a bit like an assumption [...] I think that message says 'Oh, I am sorry if its inconveniencing you but you know, it is important'. Again it sounds a little bit hard, authoritarian in a way cause you're assuming that it's inconvenient. [...] It's better saying 'We don't want to cause any inconvenience but we feel it's important to recycle'." (Personal Interview C)

5.4.10 Reasoning (Intrinsic Values)

This is a two-fold strategy of persuasive communication, which means there are two main ideas behind it. In short, based on the extensive discussion in Chapter 3, messages about sustainable behaviour can be more effective when they:

- provide a reason (rather than simply state a behavioural request)
- employ reasoning that exercises and activates people's self-transcendent (beyond-self) values.

Thus, the design response of this research employs beyond-self values for furthering long-term sustainable behaviour (see Figure 219).
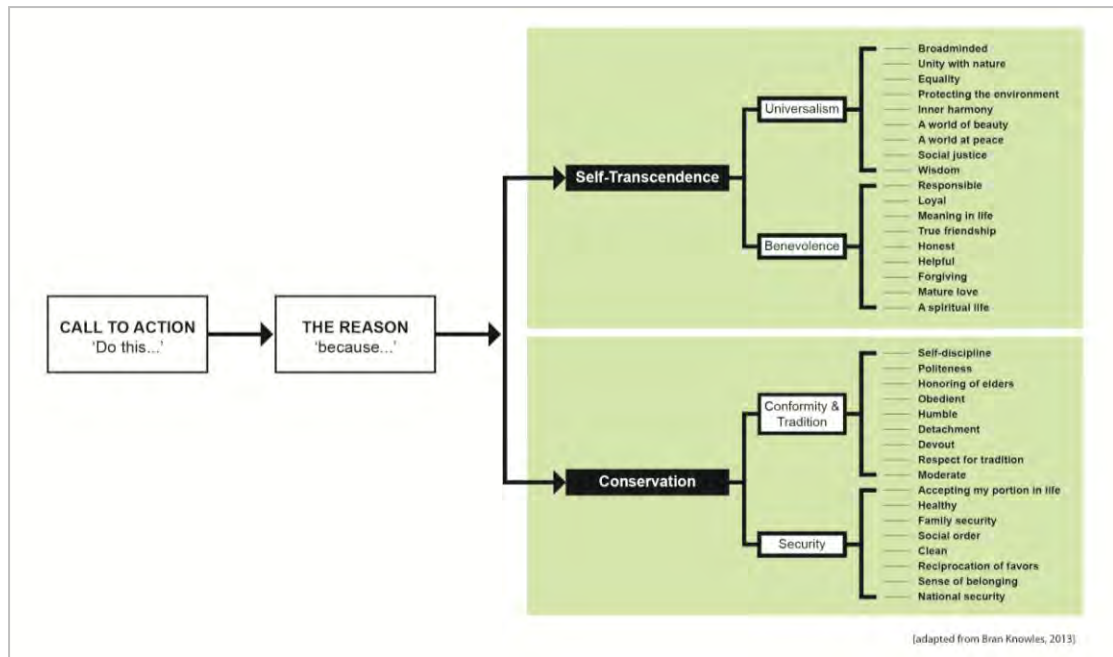
Figure 219. Reasons that activate ST values (directly building upon Schwartz's Circumplex; adapted from Knowles, 2013).

5.4.11 Knowing the Audience

The main idea behind this communication strategy is to create audience-based messages by tailoring the language to specific audiences. As discussed in Chapter 3, this is particularly effective for sustainable behaviour communications because it allows to frame pro-environmental requests without preaching to the converted.

One way to achieve this within the context of tourism in Cornwall could be to segment the large population of visitors into two main categories, according to their:

- values (Corner, 2012)
- perceived issue importance (Kronrod et al, 2011)

5.4.12 Kairos (the opportune moment)

"For prompts to be effective they need to be delivered near the desired behaviour" (McKenzie-Mohr et al, 1999, p.62), reminding people about sustainable behaviour "exactly when they're taking the action you want to change." (Futerra, 2006). That is the main idea behind the Kairos communication strategy (Fogg, 2003).

Notably, through personal interviews and participant observation (see Chapter 6), it was realised that accommodation-providers have an evangelical attachment to their 'guest

book' (also known as 'welcome folder') as a way to communicate sustainable behaviour to their visitors. A welcome folder is typically a page long (or a few pages long, like a mini booklet) that is usually found in guests' room, and contains all the information a hotelier wants to share with their guests; from "how to reach reception, the opening hours of the spa, a sample menu for room service" (P I E), to "environmental policy" (P I C), and "ways to have a greener holiday" (P I D). As a Cornish farm-cottage owner describes:

> "You know, we have a folder in the cottages, it's like a bible, it's everything we do and all the steps we take along the way and explain why we do it." (P I B)

Moreover, the Sustainability manager of a Cornish hotel characteristically explains:

> "You know, every hotel has a guest book which tells you how to reach reception, the opening hours of the spa, a sample menu for room service, things like that. But what we've done is woven the sustainability messages through that, so we have 'Did you know?', and 'Top tips' woven through that, so instead of having a whole separate page about our ethos or our sustainability policy, we have little snippets woven throughout the guest book." (P I E)

Nevertheless, according to extensive literature review, over-relying on environmental information provision gathered in a single guest's book is most likely *not enough* for influencing sustainable behaviour from hotel visitors, due to three main reasons:

- Factual information provision has limited effectiveness in changing human behaviour (as we extensively discuss in Chapter 4)
- Information overload: too much information switches people off (see also 'Simplicity' and 'Psychological Reactance')
- Low-proximity (the 'Kairos' factor): behaviour-change interventions with low-proximity decrease the likelihood of influencing people's behaviour (see Section 3.5.11; see also 'Specificity')

Therefore, an accommodation-provider that wants to promote, for example, water-saving behaviours from their visitors, should best place a water-saving message next to the faucet guests may use.
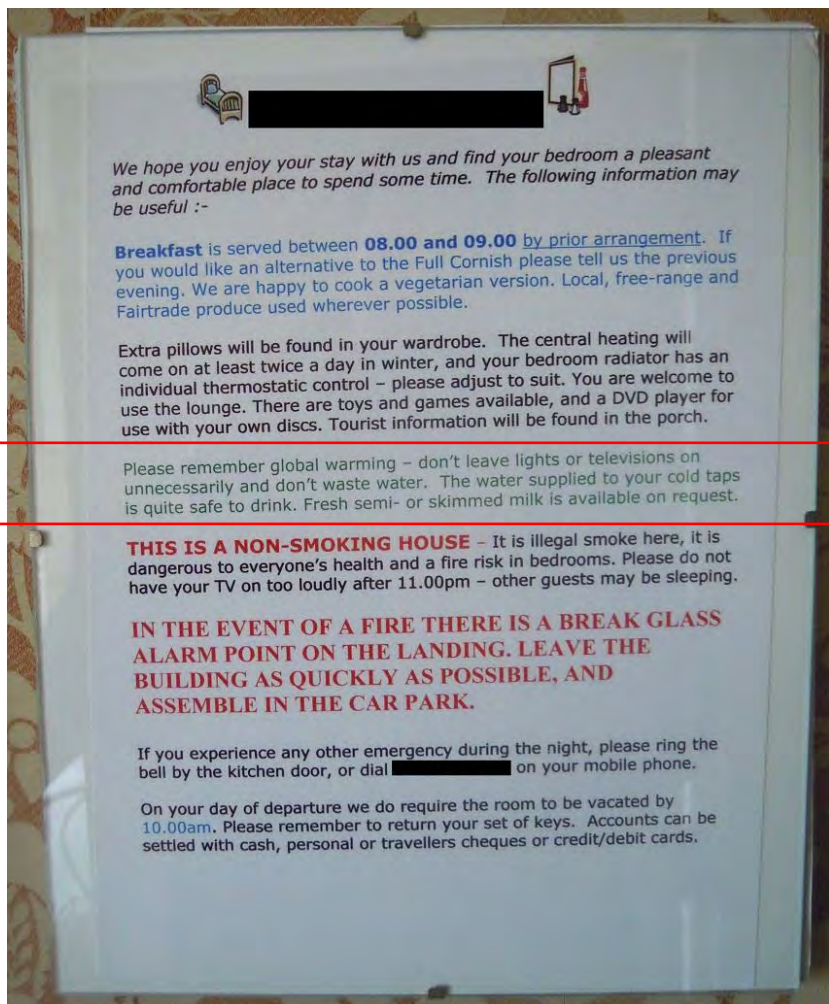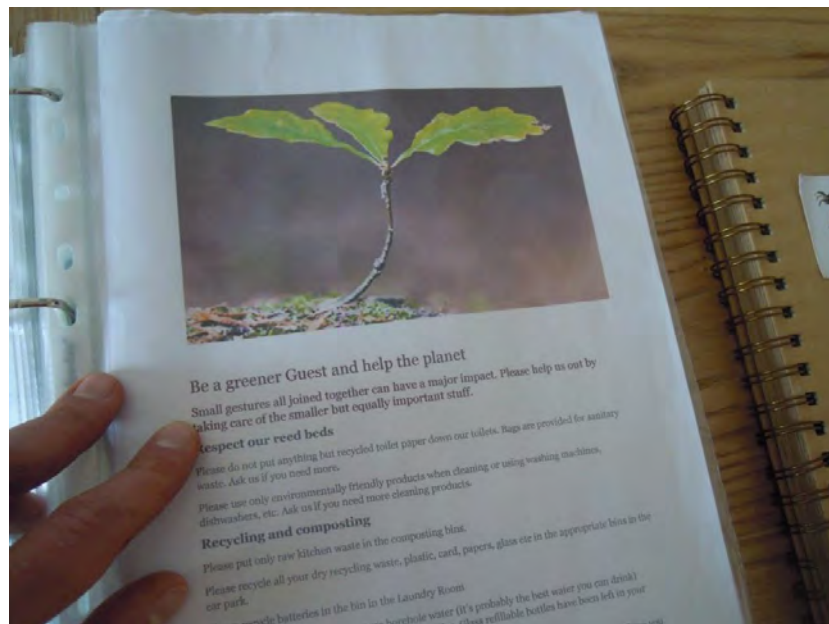
Figure 220. Examples of a typical guests' book, overfilled with information (photos by author).

5.4.13 Mental Badge

As discussed in Chapter 3, the basic idea behind the communication technique of 'Mental Badge' is that putting people in the position of being somebody who cares about the environment, nudges them to start thinking themselves in that way and, thus, behave consistently with that pro-environmental perception of themselves (Payne, 2012; James, 2010; Goldstein et al, 2008b; Walker, 2007; Futerra, 2006).

If this mind-framing technique is true then it could be employed by accommodation-providers not only to influence sustainable visitor behaviour within their accommodation context but also to influence future behaviours of their ex-guests after they have left their hotels. In other words, an accommodation-provider that manages to put their guest in the position of being somebody who cares about the environment, then he/she helps to strengthen the effectiveness of subsequent sustainable-behaviour requests that these travellers may encounter (Touchpoints) after they have left their hotels, during the rest of their Cornish experience journey. Therefore, if accommodation-providers employ this persuasion technique, in a sense, they approach the issue of sustainability through a 'three-musketeers' lens, because they become part of a systemic approach to sustainable traveller-behaviour that doesn't limit itself to the context of a hotel but can spread throughout various touchpoints of the remaining Cornish holiday experience. And this is exactly the collective mentality and multi-disciplinary approach ('all for one, and one for all') that leading voices on sustainability argue as the way to truly furthering sustainable change (Thackara, 2005).

The following sustainability sign is an attempt to implement the influence technique of Mental Badge, in order to encourage influence people to engage in environmentally friendly actions. Notably, this influence technique presupposes at least 2 steps in terms of time proximity. This means that it could be implemented in various points-of-interaction (Touchpoints) during a visitor's journey, where touristic behaviour is a significant determinant of a negative environmental and/or social impact.

Figure 221. An example of a sustainability sign that employs the influence strategy of Mental Badge.

5.4.14 Simplicity and Specificity

As discussed in Chapter 3, communication designers can minimize the likelihood of inadvertently disempowering people to engage with climate change, by creating sustainability communications that:

- include "clear suggestions regarding what people can do" to take action (McKenzie-Mohr et al, 1999, p.92; see also 'Message Specificity), as well as "constructive advice and a personal and direct link with the individual." (Corner, 2012, p.48; see also 'Personalisation').

- emphasize that there is light at the end of the tunnel called climate change; underline that people are in control (James, 2010), and that changing their behaviour and taking the instructed action will be effective in making a positive impact (Burn et al, 2007, p.40; see also 'Scare Tactics').

- employ positive wording instead of negative (McKenzie-Mohr et al, 1999).

Moreover, conducting personal interviews with Cornish Tourism businesses was an opportunity to collect the industry's feedback on certain 'Elements of Persuasion'. In regards to conceptual signs employing the influence strategy of Mental Badge, Cornish accommodation-providers characteristically raised their comments and suggestions:

"That is giving them a message that actually says 'What you're doing is contradictory, you're a green person and you need to do that, as well.' Which is just a prompt and that would be fine." (Personal Interview B)

"I think it's an assumption. How do I know you care about the environment? How do I know that? I think it sounds a little bit condescending." (Personal Interview C)

"I think it depends on the audience, if you have an audience who their demographic is very likely to care for the environment, for example families of young children, then it probably would work because you do know they care about the environment, or they might be something in their lifestyle which probably leans towards that." (Personal Interview E)

5.5 Conclusions from Chapter 5

This Chapter acknowledged the influence possibilities of the Elements of Persuasion table and the communication design possibilities it enables for furthering Sustainable Tourism. Therefore, this Chapter translated various Elements of Persuasion into applicable objects of text-based communication (i.e., linguistic devices) in order to be used in this project's design response (Elements not translated in this Chapter are directly embodied as functionalities on the Webtool's User-Interface in Chapter 7). Notably, since the author of this project is not a copywriter or an expert of the English language, at this step of the design process advice was asked from Dr. Jerome Fletcher, Associate Professor of Performance Writing (Falmouth University), as well as from Manda Brookman, the director of CoaST; their input directly informed the formation of the following 'Linguistic Devices' table.

Moreover, this Chapter informed the design of the Webtool's User-Interface by providing:

- the realisation of the structural pattern of **adding** science-based influence factors from Elements of Persuasion table to a behavioural request
- feedback from Cornish accommodation providers on the potential use of the various elements of persuasion in their communication with tourists visiting Cornwall.

Table 222. Linguistic Devices (objects of communication) Table (small size).

Linguistic Devices:

Translating 'Elements of Persuasion' into applicable objects of communication,
specifically for 'Triggers for Change' Webtool. *

Attention	Messenger	Norms	Validation	Personalisation	Incentives & Reasoning	Defaults	Priming	Mental Badge	Commitment

Attention

Group 1:

@re you norlam or jsut rellay wirde??

You turned me on, but then just walked away!

Group 2:

Climate change - no laughing matter. ☹

We know this is scary and over-whelming, but many of us feel this way and we are doing something about it.

Messenger

Group 1:

(Logotype / name)

Norms

Group 1:

we save energy.

In this guest house, we save energy.

In Cornwall/Falmouth, we save energy.

In Cornwall/Falmouth, being green is normal.

In ABC, saving energy is normal.

Most guests staying in this room, save energy.

Group 2:

join us

join most of us already making a difference

join your fellow visitors

join your fellow visitors already making a difference

join our many visitors already making a difference

Group 3:

Being a green visitor makes you a great person and we love you for it!

Group 4:

☺

Validation

Group 1:

choose to

try to

Group 2:

- it's your choice.

You are free to accept or refuse.

It may be inconvenient but it's really important.

You can't do everything but you could do your bit really, really well.

You don't have to do it but if you did, it would mean a lot to us.

Personalisation

Group 1:

Dear _visitor's name_ ,

Hotelier's name

Incentives & Reasoning

Group 1:

Don't miss this chance to

protect our beautiful local environment

honour our future generations

respect our local community

Group 2:

Help us avoid losing an honest relationship with

our local environment

our future generations

our local community

Group 3:

because it's the right thing to do.

because being considerate with water unites us with nature.

Defaults

Group 1:

If you want your bed linen changed, place this card on your bed.

If you want your towels changed, place this card on your bed.

Group 2:

unless

Priming

Group 1:

Group 2:

Mental Badge

Group 1:

We know you care about the environment - we love it, too!

Thanks! You are clearly someone who cares about the climate.

Commitment

Group 1:

(Commitment form)

(*) Elements not translated here are directly embodied as functionalities on the Webtool's User-Interface.

Chapter 6: Research Methodology

6.1 Summary of Chapter 6

This Chapter outlines the overarching design-research methodological approaches used for meeting the aims and objectives of this research project. It explains the selection of different methods and describes their epistemological justification for being appropriate, valuable and reliable. This exploratory and qualitative research is carried within the framework of grounded theory. Here, it is important to distinguish between two elements of the research process, namely 'methods' and 'methodology'; according to Crotty (1998, p.2-3. In: Lockton, 2013, p.91):

- *"Methods* [are] the techniques or procedures used to gather and analyse data related to some research question or hypothesis.

- *"Methodology* [is] the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes."

The implementation of an appropriate research methodology is essential for a prosperous research project (Robson, 2002). Since, according to Blaxter et al (2006), a broad range of methodologies can be applied to carry out research, thus, the nature of the research questions should guide the inquiry and set the framework of the data collection techniques and methods to be adopted. For that reason, it was important to adopt the most appropriate processes for this project, in order to facilitate the achievement of its specific aims and objectives.

'Methodology' is the paradigm that a research project is grounded on, accommodating appropriate procedures for bringing to a successful conclusion the established aims and objectives (Blaxter et al, 2006). As Hiles (1999) and Robson (2002) argue, the 'research design' phase consists of the following fundamental aspects:

- Research Paradigm
- Research Purpose
- Research Type
- Research Strategy
- Data Collection Methods
- Data Analysis Techniques

Notably, using design students enabled a large audience of creatives as a way to improve and test the approach and tools chosen, and test the validity (not the results) of the toolkit, and give creative feedback on how it can be used in different ways. Afterall, the 'social innovation' character of this project prescribes the need for an 'open system' research (Real World Research), a process through which new knowledge can be generated (Robson, 2002).

6.1.1 Research Paradigm

According to Guba (1990), Denzin et al (2003), and Blaxter et al (2006), every research must be guided by a research paradigm: a fundamental set of assumptions about the world and a primary group of beliefs about how to explore and study the world. Robson (2002) describes three main research paradigms:

- Positivism and Post-positivism
- Constructivism/Interpretivism
- Critical approaches

Even though this research touches upon a "Critical Approach" paradigm (because persuasion involves a sense of manipulation: a (social) context within which a powerless and a powerful/expert agent interact), nonetheless, the main paradigm this research follows is "Constructivism/Interpretivism": studying the complex nature of human behaviour makes us acknowledge the impossibility of the existence of a single reality/truth/meaning (see also "schemata of interpretation", discussed in Chapter 4: 'Messenger (The principle of Authority)'), thus, knowledge/reality is co-created (constructed/interpreted) by the researcher and research participants as the research evolves.
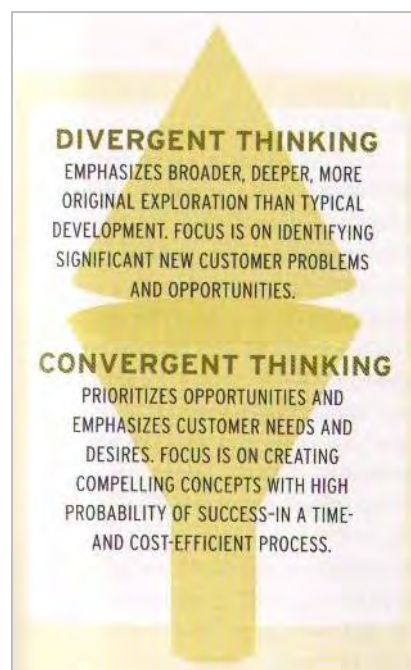
Figure 223. Divergent and Convergent Thinking (Laurel, 2003, p.149)

6.1.2 Research Purpose

According to (Robson, 2002, p.59), there are four different purposes for carrying out research:

- Exploratory
- Descriptive
- Explanatory
- Emancipatory

This research project directly builds upon Design for Sustainable Behaviour (DfSB), a relatively new field of academic inquiry, with a growing but currently limited spectrum of knowledge on using design to influence human behaviour towards desired environmentally and socially friendly patterns (Lilley, 2007, p.42; see Chapter 2). Thus, since there is not an "extensive previous knowledge of the situation", this project does not aim to prove right or wrong the existing body of theoretical knowledge, but on the contrary, this research tries to understand and directly build upon the current "little-understood" knowledge of DfSB, in order not only to realise a DfSB theory-based Webtool, but also to contribute to the field of DfSB by:

- "[seeking] new insights"
- "[assessing] phenomena in new light"
- "[generating] ideas and hypotheses for future research"

On that account, even though this project has also, to some extent, an "Explanatory" nature (seeking to explain various patterns that relate to the phenomena being researched), due to the complexity of Changing Human Behaviour, this practice-based research can be best classified as an "Exploratory" study that tries to "find out what is happening, particularly in little-understood situations" (Robson, 2002, p.59).

6.1.3 Research Type

According to Robson (2002, p.91) there are two types of research: Fixed and Flexible; also referred to as Quantitative and Qualitative research (Blaxter et al, 2006, p.65). Considering the Social Innovation character of this project, as well as acknowledging the argument that Changing Human Behaviour can be approached by exploring the underlying reasons for people's behaviour, this study calls for the application of a "Qualitative (Flexible)" type of research. This means that an emphasis is placed upon WHY and HOW questions more than the WHAT, WHERE, and WHEN questions of a Quantitative research type.

Thus, even though whenever necessary a combination of quantitative and qualitative methods can be approached (Davies and Dwyer, 2007), based on Strauss and Corbin (1998) and Neuman (2007, p.88) this design-research project has a predominantly "Qualitative" type mainly because: "Concepts are in the form of themes, motifs, generalizations, and taxonomies" rather than "in the form of distinct variables [and] numbers from precise measurement". This means that this study "assumes a dynamic reality" rather than a "stable" one, and emphasises the collection and analysis of "real, rich, deep data" rather than "hard and replicable" data (Oakley, 1999, p.156. In: Blaxter et al, 2006, p.65).

Notably, in this research, most "[d]ata are in the form of words and images from documents, observations, and transcripts (but may include data in the form of numbers and quantities)". Thus, there is an open space that allows the reframing of this research type as solely Flexible or Fixed (Davies, 2007).

6.1.4 Research Strategy

A design researcher considers which approaches to follow for each research type (Fixed and Flexible) chosen in order to frame the process of their inquiry (Strauss and Corbin, 1994). According to Robson (2002, p.91), "Grounded Theory" studies aim to "generate theory from data collected during the study. Particularly useful in new, applied areas where there is a lack of theory and concepts to describe and explain what is going on." Thus, due to the acknowledged limited spectrum of knowledge in the contemporary area of 'Design for Sustainable Behaviour' (Lilley, 2007, p.42), this study calls for a "Grounded Theory" approach to Qualitative research.

Moreover, due to its Exploratory Purpose, this study aims to build propositions grounded on theoretical and practice-based data that is systematically collected during the research process and, thus, ground a theoretical body of knowledge in order to assist the discipline of DfSB to move forward in new applied areas. Therefore, the grounded theory approach is selected as the most appropriate framework for this exploratory and qualitative (flexible) research project.

6.1.5 Data Collection Methods

Design research involves the application of multi-disciplinary paradigms and approaches (Lockton, 2013). This means that this research employs multiple methods to collect data and derive insights in order to inform the research process and, thus, the development of the final design response. Research methods are the procedures for collecting data, inform the research and, thus, respond to the established aims and objectives of a design-research project (Robson,

2002, p.90; Laurel, 2003). The various research phases demanded different data collection methods in order to use the most appropriate methods (Robson, 2002) to meet each research aim and objective being addressed.

Therefore, a multi-method data collection approach was applied for the purposes of this research project. Thus, this study employs a wide spectrum of data collection methods, from Personal Interviews to Focus Groups and Volunteering (see Section 6.2 for more details).

Figure 224. Tools for conducting design ethnography (Laurel, 2003, p.33).

6.1.6 Data Analysis Techniques

The grounded theory approach has set the framework for adopting data-analysis techniques collected in this flexible design research enquiry. Methods from the following Table are used to analyse data collected during research and thus interpret the data and draw conclusions to inform the research process. The method of 'constant comparison' was employed: analyzing the data as you collect them (Robson, 2002; Miles and Huberman, 1994; Strauss and Corbin, 1990).

Flow	Method	Explanation
Data reduction	• Time-series analysis • Key or focal events • Coding	• Patterning of data over time • Forming a focus for analysis • Classifying and categorizing groups of words
Data display	• Matrix • Maps and Charts • Causal networks	• Representing data in tables in rows and columns • Visual representation of data • Showing dependent and independent variables by a set of boxes or 'nodes' with a link between them
Conclusion drawing/ Verification	• Noting patterns, themes and trends • Clustering • Counting • Comparison • Factoring • Relating variables • Making conceptual/ theoretical coherence	• Noting of recurring patterns or themes • Grouping similar characteristics • Counting frequency of occurrences • Establishing similarities and differences between and with data sets • Grouping variables into hypothetical factors • Visualising the relationships between variables • Moving from data to constructs or theories through analysis and categorization

Table 225. Techniques for data analysis (adapted from Miles and Huberman, 1984; Robson, 2002).

6.1.7 Sampling

Sampling (Robson, 2002, p.93):

- Purposive sampling (testing focus groups)
- Snowballing sampling
- Convenience sampling (design students easier to involve with a PhD research than a commercial industrial collaborator, thus chosen as the most convenient people to generate ideas and provide feedback and input in the conceptual design phase)

Sample groups (Davies, 2007; Strauss and Corbin, 1998):

- Core sample group
- Second sampling group

6.1.8 Research Quality: Validity and Reliability

"Validity" and "Reliability" of results (Hammersley, 1992, p.67) are two core elements that determine the quality of qualitative research (Corbin and Strauss, 2008). On that note, Robson (2002) argues that the researcher must be mindful to avoid bias. According to Gibbs (2007), a major tactic for minimizing the potential for bias, and thus assessing the reliability and validity of this exploratory and qualitative (flexible) practice-based research project is "Triangulation": "Employing multiple methods to collect and analyse data. By using different sources of information for every case study, especially for behavioural issues. [This] can contribute to ensuring quality of the research findings as it produces knowledge at different levels".

Thus, in this study, conclusions drawn from primary data analysis (e.g. personal interviews) are triangulated with insights identified from secondary data collection (literature review). This, in turn, enhances the validity and reliability of this flexible and qualitative research project and improves its overall quality (Lincoln and Guba, 1985). Three steps of data analysis (Miles and Huberman, 1984):

- Data reduction
- Data display
- Conclusion drawing / verification

6.2   Research methods

This practice-based research project employs several research methods in order to collect and analyse data:

- Online Surveys
- Personal Interviews (semi-structured, formal and informal)
- Participant Observation (active and passive) including Photography and Material Collection
- Workshops
- Focus Groups (Sandpit discussions/debates)
- Questionnaires
- Email Communication (informal)
- Conference/Workshop Participation
- Volunteering (within the local Cornish community)

6.2.1   SKIP: Design Ethnography Workshop

Before the author began to conduct any research method, first, he participated in "Skills Development for Researchers in Design Practice": a one-week skill development workshop on how to apply various Ethnographic methods in order to "generate insights into design" (SKIP, 2012). Through "off-site tasks", this hands-on workshop furthered the author's understanding of "Observation studies; the Reflexive process, Ethics; Constructing and conducting interviews; Applying ethnography in design, Creating design briefs from ethnographic encounters, and Evaluating ethnographic methods." (SKIP, 2012).

The workshop was advertised as suitable for practice-based design researchers that follow a co-creating approach in order to meet their project's aims and objectives, thus, since this research project indeed refrains from imposing end-results as solutions but involves people in the design process, the author decided to attend the training that took place at the Royal College of Art, London, led by Hilary Dalke, Professor of Design (Kingston University, London).

6.2.2   Volunteering (with the local Cornish community)

This research argues that volunteering can be a method for conducting Human-Centred Design research with a local (tourism-business) community. This is because during a voluntary task, a social space opens that allows a bonding interaction between potential subjects of study and the researcher, and renders the researcher as a familiar, trustworthy face to members of the local community. Subsequently, this enhances the data collection process because it helps to gain insights of the practices of the tourism industry in a different, deeper way than, for example, when the community meets the 'unknown' researcher for the first time in a formal interview.

Figure 226. *Left image:* Building a low-impact, grassroots pavilion at Kestle Barton, an ancient Cornish farmstead (near Helford River), with local artist Paul Chaney; *right image:* Local community tree planting at Little White Alice farm-cottages, (Carnmenellis, Redruth).

6.2.3   Online Surveys

Conducting an effective design research requires the collection of secondary data (e.g. literature review) and primary data. Surveys are considered by academic ethnographers and design researchers a valuable method for collecting primary, qualitative and/or quantitative data because surveys can reach "larger audiences than could realistically be individually interviewed" (Lockton, 2013, p.104) and "enhance knowledge of the barriers and benefits for the behaviour you wish to promote" (McKenzie-Mohr et al, 1999, p.20).

Based on McKenzie-Mohr et al's (1999, p.35) "Seven Steps in Creating a Survey", this thesis uses two Online Surveys, namely A and B (see below), that consist of exploratory research questions informed by insights from literature review and primary data (personal interviews, workshops and focus-groups) conducted before the surveys. In both surveys the sample was

selected in order to be a representative one; this adds to the credibility and validation of the research findings. Notably, the choice of words and questions are context-based and address specifically the audience of Cornish accommodation-providers, members of CoaST's One Planet Tourism Network. This means that any choice of example given throughout the survey is context-based and addresses specifically the target audience. Moreover, the wording of the chosen research questions in both online surveys was informed and enhanced by the expertise of the below individuals:

- Dr. Yorick Benjamin (Director of Studies, Falmouth University, Academy of Innovation & Research)
- Valerie Diggle (Academic Skills Advisor, Falmouth University)
- Erik Geelhoed (Research Fellow, Falmouth University, Academy of Innovation & Research)
- Manda Brookman (director of CoaST; business partner).

Additionally, it can be argued that both surveys of this research are "well-constructed" because, based on McKenzie-Mohr et al's (1999, p.35) suggestions, they consist of:

1. A clear "survey objective statement"; a statement that clarifies the purpose of the survey.
2. A "comprehensive list" of items to be covered; a list of themes, guided by the insights gathered from an analysis of literature review, face-to-face interviews and focus groups, carefully selected in order to further the purpose of the subject matter.
3. Close-ended questions (for the most part) and, where applicable, using the model of Lickert scale (5-points). This model was chosen in order to encourage survey completion; as McKenzie-Mohr et al (1999, p.37) suggest, using close-ended questions keep the survey simple, time-effective (approximately 10 minutes) and demand the minimum of participants' cognitive load. Thus, the researcher can avoid participants' negative reactance towards filling in open-ended surveys.

For this specific part of the research the author used "Survey-Monkey", a widely-recognised cloud-based company providing online-survey services (SurveyMonkey, 2012). The response rate allowed the author to draw certain conclusions and move the design process further in new applied areas.

6.2.3.1 Online survey A (CoaST One Planet Tourism Network)

This research studies "Sustainable Human Behaviour". This instantly means that there are human behaviours that can be considered "Un-sustainable". Since this is a context-based research, the author seeks to find out which behaviours in the context of Sustainable Tourism in Cornwall can be considered "un-sustainable" according to the opinion of the project's target audience. Therefore, an online survey was designed and conducted, entitled: "Un-sustainable Tourist Behaviours", with Cornish accommodation-providers (e.g. hoteliers, bed & breakfast owners), business members of CoaST's One Planet Tourism Network (response rate: 44; see also Appendix 14: 'Online Survey A'). The survey's aim was to get a better understanding of the kind of environmentally unfriendly behaviours tourists engage in during their stay in Cornwall and, thus, define and prioritise the kind of touristic behaviours this project will try to influence in order to promote Sustainable Tourism in Cornwall. Notably, this survey informed Chapter 2.

For Online Survey A, a single, exploratory, context-based question was asked:

> *"Which are the five most unsustainable behaviours your visitors engage in?*
> *(for example, 'visitors leaving lights on while away', or 'visitors throwing breakfast packaging in the waste and not recycle bin')."*

After using SurveyMonkey's text-analysis software that turns open-text responses into structured data by searching and categorizing responses using frequently-used words and phrases (SurveyMonkey, 2012), the responses were categorized into 6 main themes (a few remaining responses that could not be categorized in a single theme, were categorised under 'Other', but were not used in the analysis). As a result, Online Survey A helped to map 6 basic areas (themes) of tourist behaviour:

- Energy
- Water
- Recycling
- Waste
- Locality
- Transportation
- Other

The table below illustrates the most unsustainable tourist behaviours within the context of accommodation-provision, as perceived by 44 tourism-businesses, members of CoaST's network:

Energy	
- Leaving lights on while away	19/44
- Turning heating on & opening the window	15/44
- Leaving devices on stand-by mode	2/44
- Unnecessary dishwasher use (almost empty)	2/44
- Unnecessary washing-machine use (almost empty)	1/44
- Daily towel change	2/44
Water	
- Excessive shower-water use	7/44
- Unnecessary dishwasher use (almost empty)	2/44
- Unnecessary washing-machine use (almost empty)	1/44
- Daily towel change	2/44
- Unnecessary washing-machine use (almost empty)	1/44
- Daily towel change	2/44
Recycling	
- Not recycling	16/44
- Mixing recycling & landfill waste	6/44
- Not washing recyclable items	1/44
Waste	
- Unused food thrown away as waste	4/44
- Ordering more breakfast than eventually eating	2/44
- Leaving litter	6/44
Locality	
- Not supporting local produce shops	8/44
- Not using local transport	5/44
Transportation	
- Excessive car use	13/44
- Not using local transport	5/44

Table 227. The most un-sustainable touristic behaviours (within the context of accommodation-provision) as mentioned by 44 Cornish tourism-related businesses, members of CoaST's One Planet Tourism network.

Moreover, the survey also designated a list of top 6 environmentally-unfriendly visitor behaviours (according to 44 tourism-related businesses – members of CoaST network):

- Leaving lights on while away (19/44) = 43%
- Not recycling (16/44) = 36%
- Turning heating on & opening the window (15/44) = 34%
- Excessive car use (13/44) = 29%
- Not supporting local produce shops (8/44) = 18%
- Excessive shower-water use (7/44) = 16%
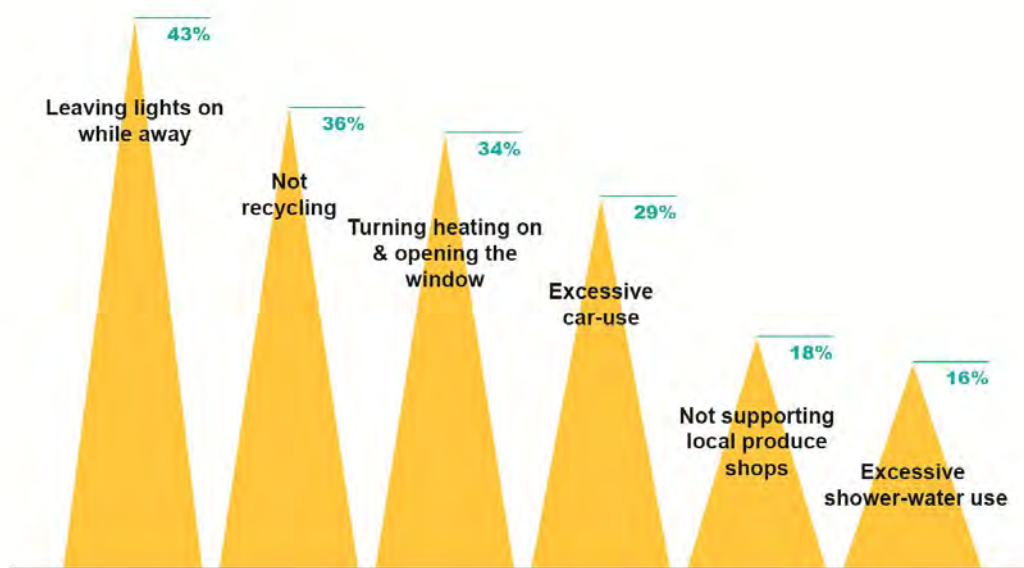
Figure 228. Top 6 environmentally unfriendly visitor behaviours, according to 44 tourism-related businesses (members of CoaST network).

6.2.3.2 Online survey B (CoaST One Planet Tourism Network)

This project, for various reasons explicitly discussed in section "3.3 Sustainable by Communication Design" employs a communication-design based approach to promote Sustainable Tourism in Cornwall. This means that text-based sustainability messages is the medium that is chosen to be applied in a specific context to influence specific human behaviours towards desired patterns. Taking this research intention into consideration, the project's supervisory team and author decided that it would be beneficial to the exploratory value of the research if before proceeding with any application, more could be learned about the *feelings and thoughts of* Cornish accommodation-providers about the project's chosen medium.

This means that a second, larger online survey entitled: 'Communicating and Influencing Sustainable Behaviour', was designed and conducted in order to learn more about the *relationship* between sustainability messages (language-based signs) and the Cornish Tourism industry (see also Appendix 15: 'Online Survey B'). The rationale behind the choice of research questions was that the survey needs to identify which are the reasons, if any, that encourage and/or discourage tourism-businesses from using signs about sustainable behaviour within their business context. In turn, any identified reasons become the barriers that establish this project's design criteria and set a starting point for further design engagement.

The survey directly informed Chapter 3 and provided a solid basis on which the author's conceptual design engagement was then initiated (see Chapter 5: 'Design Criteria'). Analysing the survey revealed many interesting insights as well as various issues/barriers to be addressed. Due to time constraints, this project prioritised issues based on the most prevailing answers; any issues that could not be addressed through this practice-based research are listed in the limitations section and are recommended as issues for further research. Thus, in-depth analysis of the survey results lead to the following main conclusions:

i.   A significant number of Cornish accommodation-providers:

       a.   are already using sustainable-behaviour signs (a combination of text and images) within their business context

       b.   have positive attitudes about using signs as a way to encourage environmentally-friendly behaviour from their guests

       c.   would be interested in using science-based signs (outcomes of this research) in their business context

ii.   Top 3 reasons that would discourage tourism-businesses from using sustainable-behaviour signs within their business context:[104]

       a.   Avoid preaching to their customers because people are on holiday; they do not want to be told what to do

       b.   Aesthetical reasons (for example, signs not matching the aesthetics of their guest rooms)

       c.   Avoid conveying negative feelings to their customers (for example, avoid evoke feelings of guilt for using shower water)

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[104] Reason ii.a was one of the survey's most prevailing answers – see 'Online Survey B' questions no. 7 and no. 15, ('Appendix 15'). On that note, it is important to note that Behavioural studies demonstrate that it is common for humans to react negatively when they are told what to do (see also "psychological reactance" as discussed in Chapter 3: 'Validation (Emotional Intelligence)').

A qualitative analysis of the above results lead to the following conclusions that, in turn, establish this project's design criteria as a starting point for design engagement:

- There is already a fertile ground to plant the seeds of a design initiative based on text-based messaging (signs), since signage is familiar to the Cornish tourism industry and as a pro-active touchpoint most likely it would not disrupt the dynamics of their service provision. For example, some participants mention that signs can be used to *"assist in making pro-environmental behaviours the norm"*; and that *"could be beneficial for both parties"*.

- Additional comments:
  - *"I think that everyone should think about their impact on the environment all the time"*
  - *"I don't want signs all over the property. I would rather lead by example"*
  - *"we're keen not to come across as 'preachy' to our guests"*
  - *"I think you should be able to tweak them to your own company's style and culture"*

Furthermore, "Identifying barriers is an essential first step in designing a successful programm." (McKenzie-Mohr & Smith, 1999, p.43). "For example, perceptions that composting is unpleasant, inconvenient and involves a significant investment of time are important issues that a community-based social marketing strategy would need to address." (McKenzie-Mohr & Smith, 1999, p.42). Therefore, identified reasons that discourage tourism-businesses from using signs about sustainable behaviour within their business context, become the barriers that establish this project's design criteria and set a starting point for further design engagement. This means that any design response must meet this established set of guidelines in order to be effectively implemented within the context of the Cornish tourism-industry. Thus, this study reflects on the needs of the tourism industry (private/public sector) as much as possible.

This means that there is an opportunity to promote new ideas in design because it is the industry's barriers and needs that are translated into design criteria. In other words, the results from the survey analysis behove the author as a design researcher to create a design solution that:

- avoids being preachy, finger-pointing, condescending but, on the contrary, a design solution that prototypes the appropriate tone of language matching the subject matter.

- follows the aesthetics of its context

6.2.4   Personal Interviews

This thesis also uses personal interviews, structured and semi-structured, formal and informal (for example, see Appendix 5). Personal interviews is an established research method that allows the collection of rich, in-depth data that can enhance the exploration and understanding of the issue at hand (Laurel, 2003).

6.2.4.1   Futerra Sustainability Communications Agency

An informal interview over the phone with David Willans from Futerra Sustainability Communications took place during the initial stages of this project. This discussion informed the selection of the project's bibliography on 'influencing human behaviour' (towards sustainable patterns) used in Chapter 4, but also triangulated and, thus, confirmed the project's emphasis to directly build upon the emerging field of Behavioural Economics. During the phone discussion notes were taken and the main points are listed below:

Main points from informal interview with Futerra:

- Contemporary studies on behaviour-change have started to move away traditional information-provision approaches: people do not need more information in order to change their behaviour. We need to engage people, not just pour information into their heads (otherwise we would have already managed to win the fight with smoking or obesity).

- How the field of 'Behavioural Economics' has received attention as a leading area of academic inquiry that challenges conventional approaches on behaviour change (which are based on traditional economic models that believed that humans rationally and logically analyse information in order to make the best decision that maximises their self-interest). Some leading authors of the field: Thaler and Sunstein (Nudge), Dan Ariely (Predictably Irrational).

- Words matter: The way we say something sometimes can be more important than what we are saying. The importance of finding the appropriate way to frame a message in defining the effectiveness of the message.

6.2.4.2   Bournemouth University's International Conference, School of Tourism, UK.

The author participated at Bournemouth University's International Conference on "Tourism, Climate Change and Sustainability", taking place on September 2012, at the School of Tourism, Bournemouth University, UK, and presented his on-going research at that time, under the title: "Product-Service Touchpoints Design as a medium to influence Behavioural Change in order to advance Sustainability in Tourism"; an extended abstract was published under the Conference Proceedings (see 'Appendix 2').

Figure 229. Participation in Bournemouth University's Conference as a research method.

Apart from gaining experience in presenting in front of large audiences and establishing a network of Sustainable-Tourism-related individuals, participating in Bournemouth University's Conference allowed a broad discussion (during the 'formal' conference hours but also during 'unofficial' lunch time) on issues of furthering Sustainability in Tourism (in the UK and beyond) and the role of human behaviour in that. Therefore, this method informed the selection of the project's bibliography on 'Tourism', and 'promoting Sustainability in Tourism', used in Chapter 1.

6.2.4.3   Cornish Accommodation-Providers (CoaST's One Planet Tourism Network)

Following the workshop with LEAP Design Agency and online surveys A and B, four formal and one informal interviews were conducted with representatives of the Cornish Tourism industry (various types of accommodation provision, all members of CoaST's One Planet Tourism Network) in order to collect their feedback and comments on certain Conceptual Signs

designed based on the 'Elements of Persuasion' table (see also Chapter 5). This method informed various steps of the research process.

Figure 230. Behavioural concepts evaluation: personal interviews with Cornish Tourism businesses (Accommodation-Providers, members of CoaST's One Planet Tourism Network).

In general, this research method highlighted the industry's perception on:

- various influence strategies the Webtool directly builds upon (quotes from this part of the interview can be found throughout Chapter 5)
- webtool's functionality (quotes from this part of the interview can be found in Chapter 7); for example:
  - The user to have the option of set the tone of language between formal/informal according to their communication needs (Personal Interview D).
  - Having a customisable option in regards to the design look: *"it would be nice if we could tailor the messages to our business brand, for example pictures or our logo or something like that, so it doesn't look generic but more like us […] even if it's just the logo or a picture, or even fonts that fits in with our branding, that would be quite useful."* (Personal Interview E)

- encouraging Sustainable Tourism, and the expectations of tourists (visiting Cornwall) of a 'good' holiday (quotes from this part of the interview can be found in Chapter 3: '"Have a nice time": questioning tourists' perceptions and expectations of a "good" holiday experience ').

- The relationship between Luxury and Sustainability (quotes from this part of the interview can be found in Chapter 3: '"Have a nice time": questioning tourists' perceptions and expectations of a "good" holiday experience').

- Sustainability has to be easy to do (quotes from this part of the interview can be found in throughout the thesis; see also 'Appendix 5')

- Avoid making visitors feel guilty (e.g., about their energy or water usage)

- Rewards (incentives) and influencing behaviour (see also Chapter 3: 'Reasoning the Request: Persuasion through Self-Transcendent (ST) Values').

- Their concerns of where to best place a sustainability sign within a hotel?
  - *"I think the danger with all those sorts of cards is that they can get lost or accidentally left somewhere, so people got to be pro-active to make it work."* (Personal Interview D)
  - *"The other thing is that this sign is a nice little card that can stand on its own on a desk like that, they're moveable, they're not static, stuck to the wallpaper or paintwork, you can hide them away of you need to, or if a guest don't want to see these signs all the time they can just chuck it away. Because if they're not going to comply or, you know, come on board they're not going to comply anyway so they would want to get rid of that sign, and if it's just standing on a table then they could."* (Personal Interview C)

Here, it is important to note that, specifically to the medium of text-based messages (signs), accommodation-providers suggested the creation of signs that consist of:

- Few words

- Humour

- Aesthetically pleasing graphics (the design 'look' of the sign, e.g. using beautiful images):
  - *"... I think [signs] need to be beautiful to put them in a hotel room, attractive [...]eye catching but beautiful, that matches with our interior design philosophy."* (Personal Interview D)
  - *"we don't like the look of lots of different signs here and there and everywhere – it wouldn't fit with the whole character of our hotel."* (Personal Interview E)
  - "Interviewer: That is actually one of my main considerations. Do I really want signs that stand out from their surrounding environment or do I want them to blend in? Because on the one hand they *have* to be noticed in order to work

but on the other, they should not catch your eyes all the time. So do they blend in or do they stand out? Interviewee:*"It is really tricky, isn't it? In fact that almost a separate piece of research, you know, what do people respond to. This research also wants to influence the behaviour of hotel owners in terms of getting the environmental message across because if they don't like these [signs] then they won't put them on."* (Personal Interview C)

- Creative materials (for example, Eden Project's signage).
  - *"... we try to use natural materials, so wood or sleight or granite, so it ties more with the materials we've used for the buildings. And also that lasts more than paper, doesn't it?"* (Personal Interview D)

6.2.4.4 Manda Brookman (director of CoaST)

Another personal interview was conducted with Manda Brookman, the director of this project's business partner: Cornwall Sustainable Tourism Project (CoaST). The aim of the interview was to explain to my business partner the main idea of the 'Triggers for Change' Webtool ('this is WHAT my idea is') and take her through the user-journey of the Interface Design ('this is HOW it works'), in order to see how the director of CoaST receives the idea of the Webtool in terms of its potential for CoaST's One Planet Tourism Network.

Figure 231. Webtool concept evaluation through personal interview with Manda Brookman, director of this project's business partner: Cornwall Sustainable Tourism Project (CoaST).

Manda's feedback was positive and her suggestions for improvement informed the development of Webtool version 0.2. Quotes from the interview can be found throughout the thesis text, and the main points of the discussion can be found below.

Main points from Personal Interview with CoaST's director on Triggers for Change webtool:

- It was clear to Manda that Triggers for Change (TfC) is a tool that brings together all the research and synthesizes it into elements that allow people to use them simply and clearly; collecting all sorts of scattered and quite complex research, and not always very intellectually accessible information, and making it really clear.

- TfC gives users the choice, based on their expertise of their own visitors, as to how to put the message together, but it also clearly shows them WHY something might be a good idea to use – instantly usable and user-friendly.

- Thus, TfC can help all sorts of people generate all sorts of useful messaging about sustainable behaviour, not just in accommodation-provision but across the board.

- It was recognised that Triggers for Change is a tool that provides the 'building blocks' for its users. Users can use the blocks to create different versions of messages, and inform the website with what works. But the testing of it will happen as people start using the tool.

- It was suggested that the tone of language needs to change according to an audience. This means that the webtool needs to give its users the opportunity to "funk it up" a bit, or make the message more formal, should they require. For example, messages could vary from *'C'mon mate, switch the bloody lights off'*, up to *'It would be lovely, Mr. and Mrs. Smith, if you could possibly turn room lights off.'*

- Notably, that may counter user's expectations; for example, hoteliers may think *'I've got to make it very formal cause no one will listen to me otherwise'*, but then, through their own experience using the webtool and after reading other user's reviews they might think, *'actually, the informal way is a very good way to engage people'*. To some degree their own experience might counter their own expectations in a useful way (*'I didn't think that would work but actually I do need to have that element, I didn't realize that'*). But as Manda pointed out, this is something for them to learn as they go through the process. This is something beyond my ability as a researcher to counter user's prejudices, concerns, and/or presumptions.

- That is for them to find out, thus the webtool needs to be a platform that encourages everyone to learn from everyone else's. Triggers for Change needs to give users

enough choice to choose what is appropriate, but also gives them the opportunity to have a think, to reflect and then say: actually, I need more about 'social norms' and less about 'priming'; and that would come though in the reviews. So, it is by working together that people start to think *'actually, that's really good'*, or *'I haven't thought about that'*, or *'I can see that this is important'*.

- It was stated that TfC is a concept with great potential in helping the network of CoaST in furthering sustainability.

- Near the end of the interview, Manda also suggested to consider the further development of this tool within a permaculture concept (growing things permanently, like sustainable agriculture). One of the premises of agriculture is that: you make everything have multiple outcomes, so, for example, when you get chickens, they eat the weed, they lay their eggs, and they give you chicken food from your garden. Thus, in relation to the webtool, it can be designed so people can use it, change behaviour as a result, generate income to invest back into it, and put some money to charity that, for example, is working with kids. Thus, part of its efforts to get people to behave more sustainably environmentally is also contributing to social sustainability.

6.2.4.5   University of Wolverhampton workshop

The author attended a results-workshop at the University of Wolverhampton, titled: "Creating Sustainable Innovation through Design for Behaviour Change".

Figure 232. University of Wolverhampton's workshop: Understanding people better, helps you design better solutions (photo by author).

Apart from networking with leading academics in the field of DfSB, such as Prof. Kristina Niedderer, Prof. Paul Hekkert, and Dr. Dan Lockton,[105] participating in University of Wolverhampton's workshop allowed a better understanding of the emerging field of Design for Sustainable Behaviour (DfSB) and its role in driving sustainable innovation, because the workshop brought together an inter-disciplinary and multi-institutional network of stakeholders, businesses and academia, with an overall aim to understand how professional organisations (mostly SME's) understand and use DfSB. Furthermore, the workshop's opening presentation on "Understanding Human Behaviour" and " Behavioural Models" confirmed the chosen literature review Chapters 2 and 4 build upon.

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[105] This research project directly builds upon the work of Lockton (2013).

6.2.5   Focus groups

6.2.5.1   Focus group A: Cultural Tourism Sandpit, at the Royal Cornwall Show

With support from Falmouth University, Sam Bleakley[106] and Simon Tregoning,[107] the author hosted a one-hour Sandpit, at the Royal Cornwall Show (Local Enterprise Partnership (LEP) / Falmouth University tent), entitled: 'How do we make a living from our culture without wrecking it?'.[108] The Sandpit's purpose was to stimulate discussion and debate on cultural management and cultural tourism practice among a spectrum of Cultural Tourism representatives and Tourism businesses from a range of industrial sectors and stakeholders in Cornwall (for example, Malcolm Bell, the Head of Visit Cornwall).

Figure 233. Chairing a Cultural Tourism Sandpit, at the Royal Cornwall Show, consisting of key stakeholders of the Cornish tourism-industry; such as the Head of Visit Cornwall (image credit: ©JamieCook/CartelPhotos).

The sandpit's intention to focus particularly on Cultural Tourism and related industrial sectors in Cornwall was because, as we discuss in Chapter 1, Tourism is one of the globe's largest and fastest growing industries, currently supporting over three million jobs in the UK (Visit Britain Report, 2013) and offering tremendous potential for cultural exchange, entrepreneurialism, leadership and creative innovation. Moreover, the relationship between culture and Tourism is

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[106] During the Sandpit, Sam Bleakley was a Senior Lecturer and Course Coordinator in Cultural Tourism Management (BA Hons) at Falmouth University.

[107] Director of a tourism marketing company, working within the west of England (Cornwall, Devon, Somerset and Dorset).

[108] A title that lies at the essence of 'sustainable development': a concept that, as we discuss in Chapter 2, challenges the negative environmental impact created from our human culture and our conventional ways of producing and consuming.

receiving increasing international attention from development agencies, governments and the tourism and creative industries.[109]

Figure 234. At the Royal Cornwall Show (image credit: ©JamieCook/CartelPhotos).

A set of questions that explore and challenge our perceptions of tourism and cultural engagement was structured and used during the Sandpit. My role was not to provide the answers, but to chair the session making sure that everyone received an equal opportunity to speak and raise their questions and concerns, so could we could all be part of a fruitful discussion and learn from each other. Sandpit participants raised numerous viewpoints (all of which could be the begging of a new story) on promoting Sustainable Tourism that informed this thesis' Section 3.5.9; main points from the discussion/debate are listed below.

Main points from Cultural Tourism Sandpit with key stakeholders of the Cornish tourism-industry:

1. Notably, most participants of the Sandpit group agreed that the 'massive showerhead' is not the reason that most tourists will visit Cornwall; as it was explained, Cornwall is one of the hardest destinations to reach, therefore it is not the luxurious lifestyle that motivates them to make the journey here but the sense of difference they derive from

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[109] For example, Cultural Destinations is a £3 million initiative launched in 2014 between Arts Council England, Visit England and the National Tourist Board, to enable arts and cultural organisations in the South West to work with particular tourism mangers to increase their reach, engagement and resilience.

Cornwall's landscape and the lifestyle of the local communities. It was suggested by Malcolm Bell (Head of Tourism at Visit Cornwall), to hold on to this Cornish difference/uniqueness when local businesses deliver the touristic experience. When it comes to the Cornish touristic experience, Cornwall itself is the product.

2. Therefore, it was suggested to try and attract guests that like this product. Indeed, Sandpit participants recognise that not only do those who live and work in Cornwall rely heavily on tourism, but that tourism itself relies almost entirely on its principal asset: the Cornish physical environment.

3. The tourist industry affects, and is affected by, all aspects of our lives: food, transport, accommodation, procurement, energy, waste, water, wildlife, natural environment, retail, people and lifestyles. Thus, how can we drive behavioural change by encouraging positive choices, across these disparate areas? Because, 4,5 million tourists is a big population; knowing the likes, attitudes and quirks of this visiting audience is not a simple process. Notably, the part of discussion on influencing (business and consumer) behaviour in key tourism impact areas in Cornwall, illustrated the attachment of the Tourism industry to increase visitors' awareness on the importance of conserving the (Cornish) environment and, thus, solely rely on informing tourists visiting Cornwall into change: *"we need to educate people while they're here"* – but, as we discuss in Chapter 4, this research project challenges the solely use of this conventional approach because it is "limited" in bringing about change.

4. Moreover, the use of the word 'sustainable' didn't share a common understanding by all Sandpit participants; what is sustainable? This part of the Sandpit confirms findings from literature review as discussed in Chapter 2: 'Defining Sustainable Tourism: no shared understanding'.

5. Tourism is Cornwall's single industry, after agriculture, and essential to the well-being of many local businesses.

6. The concept of "Carrying Capacity" for Cornwall was also mentioned, acknowledging the need to define the maximum number of tourists who can be successfully accommodated in Cornwall. Even though it is challenging to define 'successfully', most participants agreed that a numeric level should be set to prevent further levels of visitation or development leading to a deterioration of the Cornish physical environment and the visitor's experience.

7. You are not a Tourist; This is not just a destination; This is your Home: reframing people's mindsets from being a tourist to a guest: "if we connect with the place then our role changes and we consider things differently [...] Noone cares about a destination, everyone cares about someone's home [...] changing people's frame of mind from being a tourist to a visitor. This change in framing also applies to tourism as a whole [...] if it's a market you want to grow it, if it's a relationship you want to look after it." (Design Online, 2012a).

6.2.5.2 Focus group B: Cultural Tourism Sandpit, at Falmouth University

Sam Bleakley[110] invited the author to participate in a Cultural Tourism Sandpit at the Performance Centre, Falmouth University. Apart from joining a discussion on the emerging world of Cultural Tourism,[111] meeting and networking with Cultural Tourism providers and exploring potential partnership activity, the Sandpit was an opportunity to present (and answer questions on) the author's ongoing research on Sustainable Tourism, in front of Tourism-related individuals, businesses, students and academics, such as: Malcolm Bell (Visit Cornwall), Manda Brookman (CoaST), Chris Hines and Nick Hounsfield (The Wave UK), Dr. Jennifer Otter Bickerdike (University of East London), and others.

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[110] At that time, Sam Bleakley was a Senior Lecturer and Course Coordinator in Cultural Tourism Management (BA Hons) at Falmouth University.

[111] Based on notes taken during the Sandpit, Cultural Tourism can be described as tourist activity inspired by action sports, creative arts, heritage, landscape, etc. According to Sam Bleakley, "local pride is the starting point of cultural tourism".

Figure 235. The poster for advertising the Cultural Tourism Sandpit.

The Sandpit was an opportunity to understand more about the dissemination of this research project, and where the value of this practice-based project can be found. Soon, the author realised that research methods were being conducted on, what Kirkpatrick's 1998 model calls, the "Learning Level": "the extent to which participants change attitudes, improve knowledge, and/or increase skill as a result of attending the program." (Kirkpatrick, 1998. In: Lockton, 2013, p.106).

Here, it is important to mention that in order to conduct primary research and receive feedback on influence strategies, research methods of this project needed to embrace a pedagogical/educational character, This means that each influence strategy needed to be explained to research participants. Thus, since research methods were taught to participants making them aware of persuasive communication strategies, therefore, participants' knowledge improved as a result of participating in the research. Thus, the researcher inadvertently became a consultant for tourism-businesses and their communication needs and made knowledge "available to others" (Cross, 1999, p.9. In: Lockton, 2013, p.113) not only through the final design outcome but through the research process itself; conducting primary research and explaining to people the main findings from a wide multi-disciplinary literature

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review, raised awareness of the science of persuasion and inspired participants to change their communication approaches based on the examples, case-studies, and suggestions from the author's interaction with them.

Thus, the author prepared a small questionnaire that was handed out before the beginning of the Sandpit and collected after the end of it. The questionnaire demonstrated that indeed tourism-related individuals and businesses would apply persuasive-communication approaches, explained during the author's presentation, to their communication with their visitors.

Based on this, one could argue that methods employed for this practice-based research are not just ways of collecting data but also procedures through which the research itself is disseminated. In other words, the value of this research project is not only related to its *outcomes* but equally important to its *process*, because during the process businesses become aware of, understand and decide to use persuasion techniques in their communications. Thus, to conclude, the value and impact of this research should not be measured only by the influence the final webtool has on its users, but also by the research process itself; conducting primary research and explaining to people the main findings from my research (lit. review) was itself a model for disseminating my research, before a delivery mechanism (webtool) was even created.

For example, as the owner of a Cornish guest house argues during a personal interview (see Personal Interview C):

> *"... I have to be honest with you, I haven't considered that before, until I read that, the word 'invite'. Did you give you our green policy? I will print one off for you. We haven't used the word invite in it, and i really like that, and if we will re-word it I will definitely use that."*

Figure 236. The author presenting his ongoing research to Cultural Tourism businesses and individuals (photo by Dr. Daniel Metcalfe).

Figure 237. An example of the questionnaire handed out during the Cultural Tourism Sandpit (see also 'Appendix 8').

6.2.5.3 Sandpit at Academy for Innovation & Research (AIR, Falmouth University)

Taking hoteliers through the User Interface (UI) design (this is WHAT my idea is). This research method directly informed the webtool development (see Chapter 7 for a detailed discussion on this session).

Figure 238. Triggers for Change Webtool evaluation through Focus Group with Cornish Tourism Businesses, members of CoaST One Planet Tourism Network (photo by Dr. Daniel Metcalfe).

6.2.6   Workshops

'Workshops' are a practical method widely used in action research projects (Crotty, 1998) like this exploratory, qualitative research thesis. Notably, as Lockton (2013, p.100) describes, "from a reflective practice perspective […] workshops fit well the focus on iterative development around particular forms of action [but] the ideas and outcomes generated in an 'artificial' setting may not have *ecological validity*, or may not be generally applicable outside of the context in which they were created".

6.2.6.1   Workshop A: Falmouth University's Sustainable Design students (Level 2)

The author constructed and conducted a workshop titled: 'Design for Sustainable Behaviour', with Level 2 Sustainable Design students from Falmouth University, the Design Centre. "Rather than multidisciplinary design teams in industry, access to the students and academic designers [can be] straightforward", thus, at that time of the research, design students "were considered as the most convenient and suitable persons to act as respondents for a useful and accessible trace of the idea generation process underlying the design concepts." (Tang, 2010, p.53).

Moreover, as Lilley (2007, p.46) explains: "Design students are, for a PhD researcher, a useful and accessible resource for testing ideas and can be used as initial subjects in pilot studies." Thus, using design students enabled a large audience of creatives and allowed a way to test and improve the approach for developing a tool for Cornish accommodation-providers (not the results of the toolkit) and giving creative feedback – how models of DfSB can be used in different ways.

Figure 239. 'Design for Sustainable Behaviour' workshop with Falmouth University's Sustainable Design students (Level 2; the Design Centre, Penryn Campus).

Participants were asked to form groups. The workshop began with an introductory lecture (based on material gathered from an extensive literature review) on the emerging field of DfSB, various strategies (the distribution of control between user and product) were explained and a selection of illustrated examples were provided. The lecture continued on Sustainable Tourism,

and how the behaviour of tourists is a major determinant of the industry's contribution to CO_2 emissions and, thus, climate change.
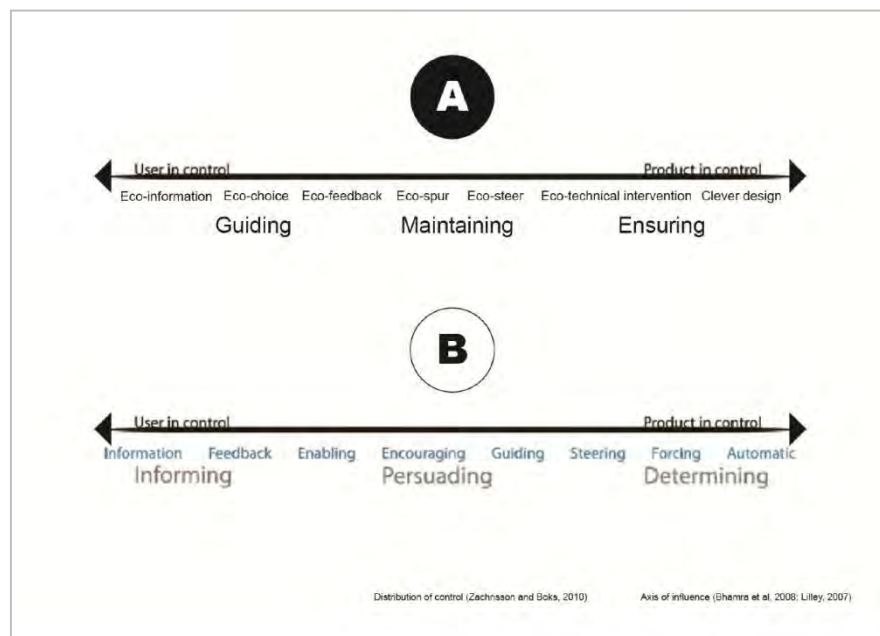
Figure 240. Explaining the strategies of two main DfSB models.

After explaining that truly furthering a sustainable society needs a synergy between eco-technology (external change) and eco-behaviour (inner change) – an idea that is essential to this research project, for the 2nd part of the workshop, design students were asked to link the strategies of the two main DfSB models with a set of cards provided, that, based on material gathered in Chapter 2, consisted of representative examples of intentionally designing behaviour change. This was also used as a design stimulus in order to inspire creative thinking (see figure below). As Lockton (2013, p.99) argues, "[t]he use of inspirational material such as card decks in workshops is established in design research [...] and indeed idea generation workshops in various forms are relatively common, sometimes with designers (or design students) as participants, sometimes with multidisciplinary teams, and sometimes with potential 'users' or other stakeholders as part of a participatory co-design process."

"In some cases it was difficult to classify all of the interventions used in the design of the product as belonging to one singular approach. Some products combined two or more approaches in one product or a system of products" (Lilley, 2007, p.40). Thus, even though this part of the workshop aimed to give the researcher a better understanding of the boundaries between various DfSB strategies, nonetheless, it only confirmed what literature already discusses (see Chapter 2), that DfSB strategies "are not as distinct from each other [...] and there is quite a lot of crossover" (Lilley, 2007, p.39). Therefore, as Zachrisson and Boks (2010,

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p.4) argue, further research is needed for design researchers to confidently decide "when and in which context the different strategies are most likely to be effective."
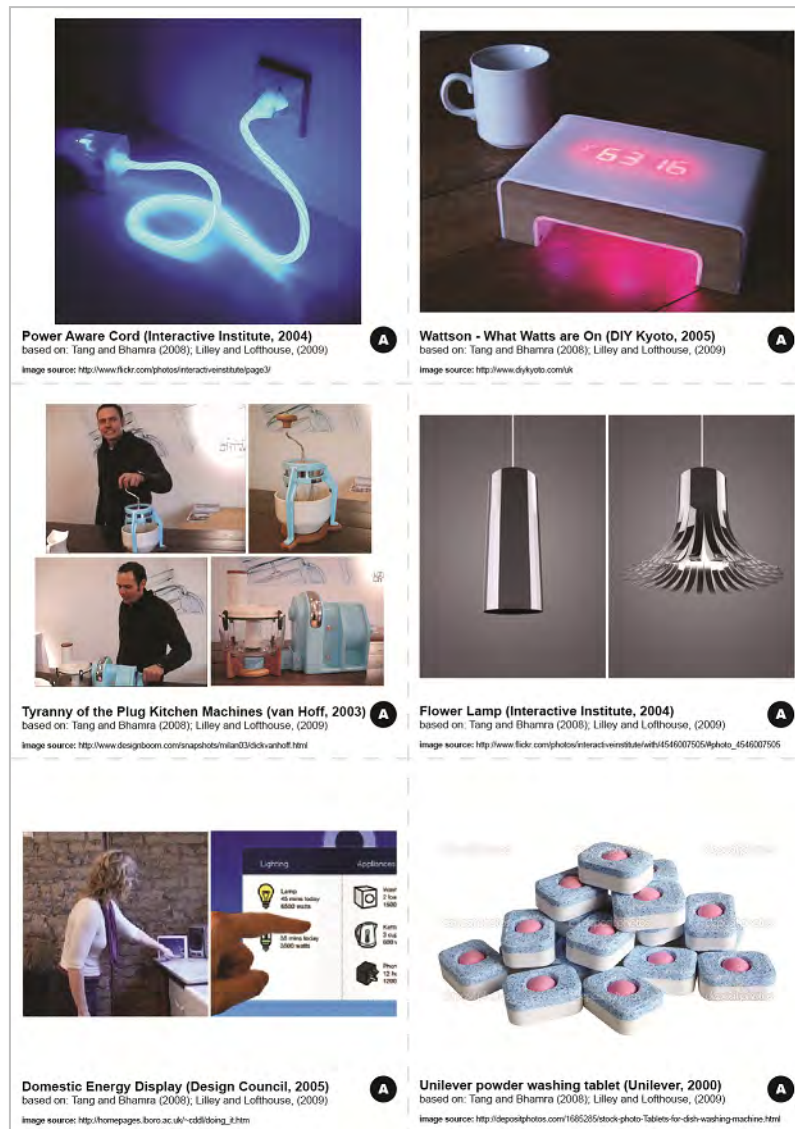
Figure 241. Part of the set of cards provided to workshop participants

Figure 242. Design students classifying DfSB strategies with selected examples.

Figure 243. An example of linking DfSB strategies with design examples.

For the 3rd part of the workshop, design students were given six (6) design briefs, each one consisting of an un-sustainable touristic behaviour (based on the results from Online Survey A; see Figures 242 and 243) and were asked to apply DfSB strategies to generate design solutions that address their brief's Sustainable-Tourism-related issue.

Figure 244. PowerPoint slide used during workshop; the design briefs were based on the results from Online Survey A.

Figure 245. A selection of the workshop's six design briefs.
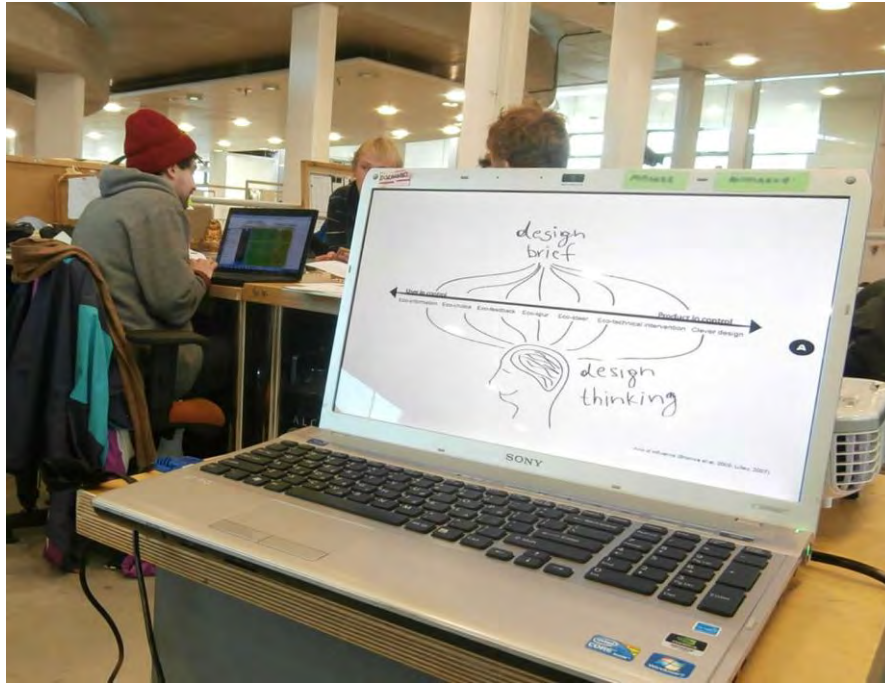
Figure 246. Design thinking through DfSB models in order to address the design brief.

Due to the lack of "sufficient detail of the designer's research and design processes […] students were unable to understand how the end result was reached." (Lilley and Lofthouse, 2009, p.32). Nevertheless, that educational barrier did not make the subject matter hard for Falmouth Sustainable Design students to engage with, and various design concepts were generated and presented in front of all workshop participants (see following Figures).

Figure 247. Idea generation to address the brief (using design for behaviour change as a medium to address unsustainable touristic behaviours; Workshop part 3).
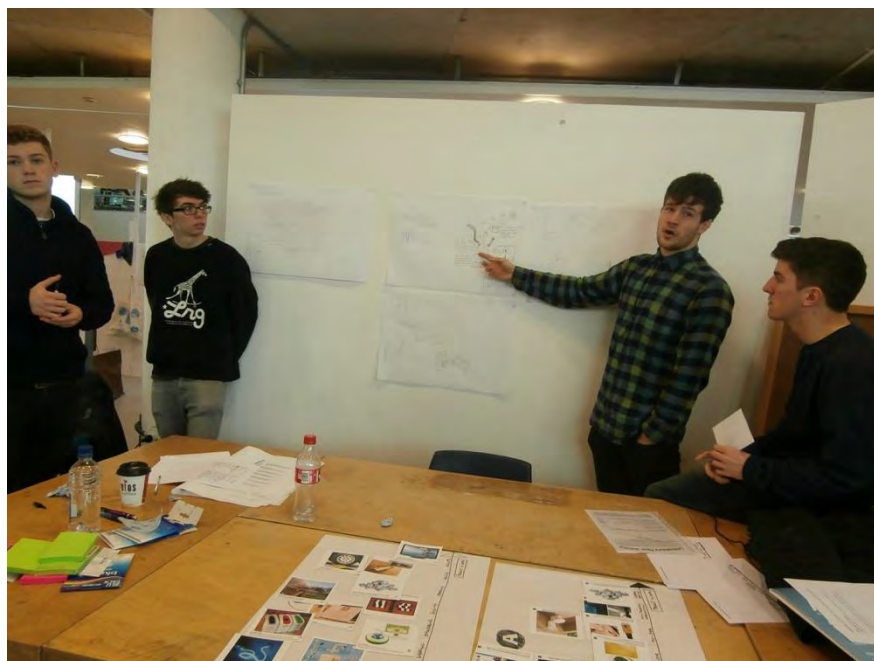
Figure 248. A group of students present their design responses to the brief.

Figure 249. Another group of students present their design responses to the brief.

Here, it is important to note that the workshop was not so much about design concepts as about understanding how designers may use DfSB models and strategies as inspirational material when addressing sustainability-related issues.

For the last part of the workshop, student were asked to answer two questions, using the green or red post-its available according to their answer, and then place the post-its on wall so a final discussion could then be stimulated. The questions were:

- Which DfSB approach would be the *most* effective in achieving sustainable behaviour change? Why? (Green Post-it)
- Which DfSB approach would be the *least* effective in achieving sustainable behaviour change? Why? (Red Post-it)

Figure 250. Students use Post-It notes to write down their answers.

Figure 251. Putting notes on wall to stimulate discussion amongst all workshop participants.

Most design students favoured approaches that are found near the end of the right end of the spectrum of DfSB strategies (Product in control), such as "Clever Design", "Automization", and "Eco-Technical Interventions". See the following section for more on this.

6.2.6.2   Lecture with Sustainable Design students

Falmouth University's Senior Lecturer of Design, Su Vernon, invited the author to co-deliver a lecture on DfSB approaches, for Sustainable Design students at Falmouth University (the Design Centre).

The lecture mostly consisted of material used in the introductory lecture of Workshop A: the emerging field of DfSB, strategies and selected examples. The last part of the lecture was an opportunity to ask students to provide their viewpoint on the following question (from the Sustainable Design Research Group (SDRG, 2011); a question that this research considers of great importance when designing for human behaviour change can be found in Figure 250:

Figure 252. PowerPoint slide used during lecture to convey a challenging question.

Students were asked to use Post-It notes to express their viewpoint on the issue and place them on the wall so discussion/debate could be stimulated. As with the results of Workshop A, once again, design students placed a disproportionate emphasis on DfSB approaches that place the 'Product in control' of human decision-making; in other words, the prevailing perception of most design students was that for furthering sustainable behaviour:

"forcing behavioural changes is more easy to make results" (Design Student A).

Figure 253. Co-delivering a lecture on DfSB with Su Vernon, Falmouth University's Senior Lecturer of Design.

Here, one can arguably wonder: Is this perception prevailing because of a designer's bias to typically favour electronic gadgets and technological solutions, or is it a general expression of the disappointment and lack of trust of young generation towards humanity?

6.2.6.3 Workshop B: Collaborative workshop with Sustainable Product Design and Creative Advertising students

A collaborative (CO-LAB) workshop was designed and delivered, titled: 'Techniques of Persuasion', bringing together stage 1 students from both 'Sustainable Product Design' and 'Creative Advertising' departments of Falmouth University, Penryn Campus. As we discuss in Workshop A, "Design students are, for a PhD researcher, a useful and accessible resource for testing ideas and can be used as initial subjects in pilot studies" (Lilley, 2007, p.46), thus, once again, using design students for this workshop enables a large audience of creatives; Thus, as we discuss in the previous sections, using design students enables a large audience of creatives and is a way to test and improve the approach for developing a tool for Cornish accommodation-providers, not the results of the toolkit, and giving creative feedback – how models of DfSB can be used in different ways.
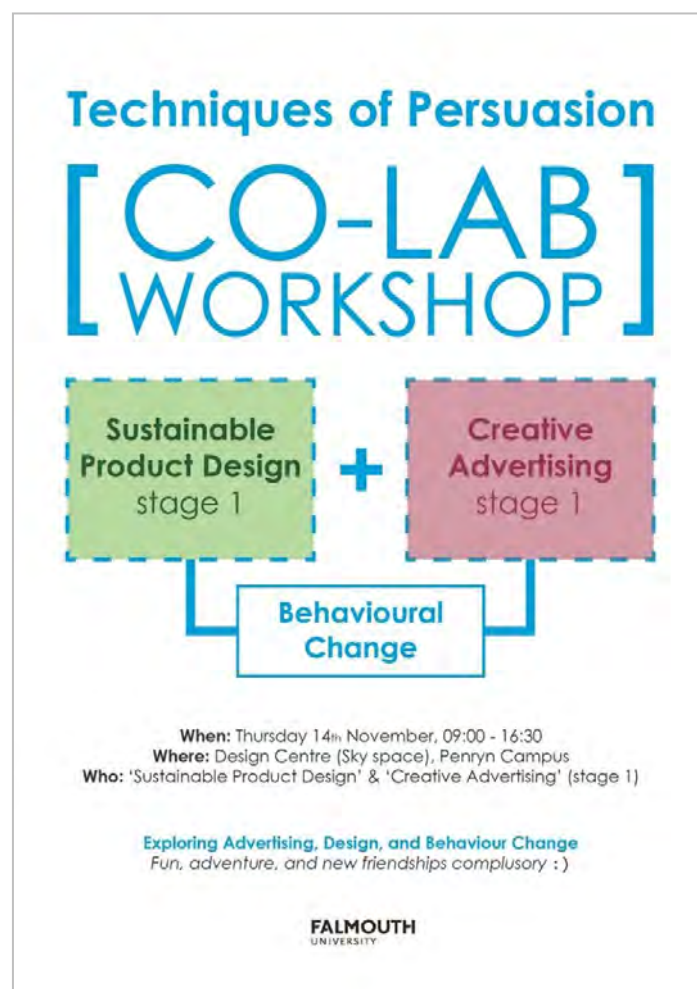
Figure 254. The poster for the collaborative (CO-LAB) workshop.

Figure 255. Falmouth University students from two academic disciplines participated in the collaborative workshop.

Due to the large number of participants, students were asked to form approximately 10 groups of six. As an ice-breaker technique, students were asked to name their team and briefly explain the idea behind their name (Speed Branding). Collaboration was the main idea behind the workshop. Therefore, the workshop began with an introductory presentation that aimed to provide material that brought the two disciplines (Sustainable Product Design, and Creative Advertising) together under one common theme: Communication; either through words or form, students of design and advertising came together in that workshop to explore and create communication interventions that influence human behaviour towards intended practices. This presentation was more communication-design based, emphasising on examples of behaviour-change interventions that were mostly language and words based.

Moreover, a key idea of this research project was discussed: that everything in our everyday lives can be a medium for persuasion; everything around us communicates something to us and shapes our everyday behaviour on a conscious or an unconscious level; either if that is a 'person' sitting next to us at a cafe, a 'word' on the wall, or the speed-bump on a driveway. "One cannot not communicate" (Watzlawick, 1967).

Then, the work of the project's business partner CoaST was introduced and the presentation continued on Sustainable Tourism and how the behaviour of tourists is a major determinant of the industry's contribution to CO_2 emissions and climate change. Having said that, Sustainable Tourism issues, identified in Online Surveys A and B, were discussed. Having

Creative Advertising students as participants, this workshop aimed to stimulate design reposnses that mostly use language and words creatively. After providing two design stimulus:

- Design stimulus 1: Self-Transcendent reasons (adapted from Knowles, 2013)
- Design stimulus 2: "Green Words" (from Futerra's 2007 "Words That Sell")

Thus, students were asked to make use of the design stimulus provided to address the design briefs that asked them to collaborate and generate ideas that influence pro-environmental behaviour of tourists visiting Cornwall, and generate any design intevention they wished but every group should also try to capture their core idea through:

- a text-based poster
- a twitter text-based message[112]

A poster consisting of IDEO's 'Rules of Brainstorming' (see Figure 254) was designed and placed on a central spot wall so all participants could be inspired during this workshop. Notably, even though the majority of workshop participants did not make use of the design stimulus provided, as hoped by the researcher, nonetheless, Falmouth University students came up with some quite creative concepts.

Figure 256. A poster designed ad-hoc for workshop: IDEO's Rules of Brainstorming (adapted from Lockton, 2013, p.72).

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[112] Students were asked to use Twitter as a medium to deliver their core idea. Twitter was purposefully selected as an inspirational tool for this part of the research, because it follows an established principle of persuasive communication: 'Message simplicity: Design messages that are short and easy to understand.' Using as less words as possible; not overloading the message with information. Lengthy messages discourage people from reading them (Intille, 2003).

Figure 257. The "Puzzle Light Switch" as a representative example of the "nudging" strategy.

Figure 258. An emotionally intelligent use of language (image: Dan Pink).

Figure 259. A selection of slides of introductory presentation: Communication through words; communication through form (scripting).
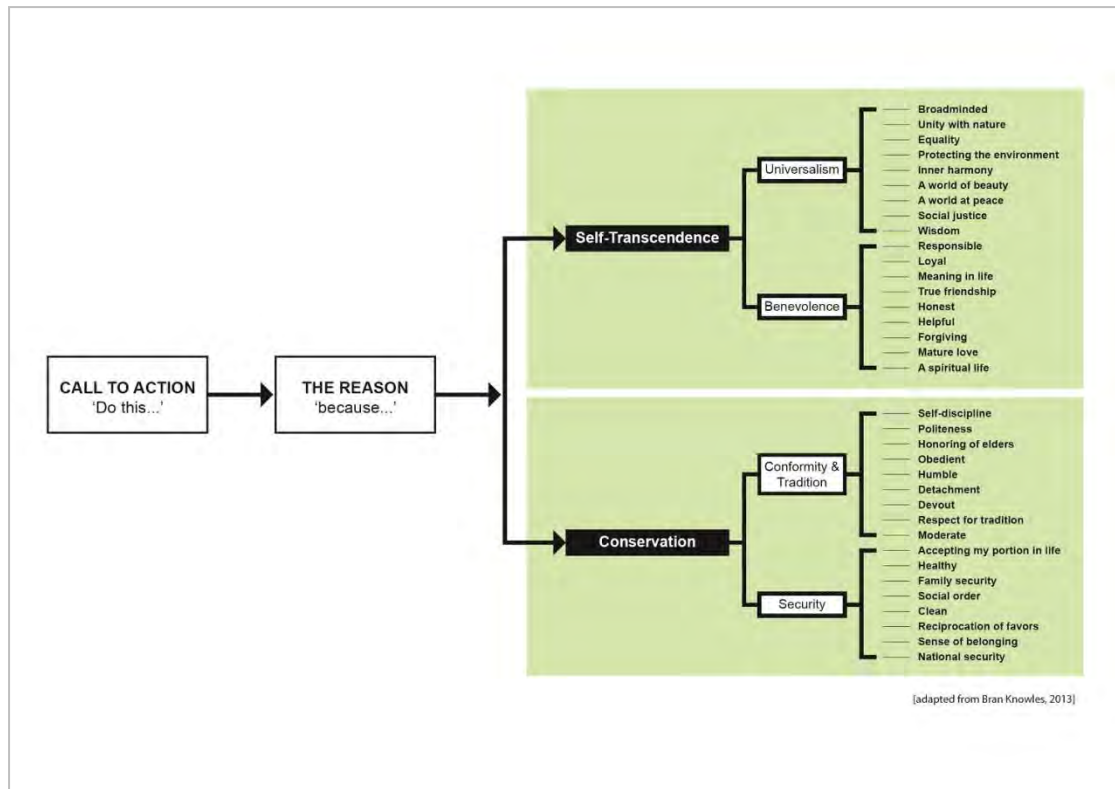
Figure 260. Design stimulus 1: Self-Transcendent reasons (adapted from Knowles, 2013).

Figure 261. Design stimulus 2: "Green Words" (from Futerra's 2007 "Words That Sell").

Figure 262. A selection of students' design response: a transparent billboard that employs scare tactics and depicts a certain part of the sea, a few decades later, in an environmentally-declined state. "#Would you come back?".
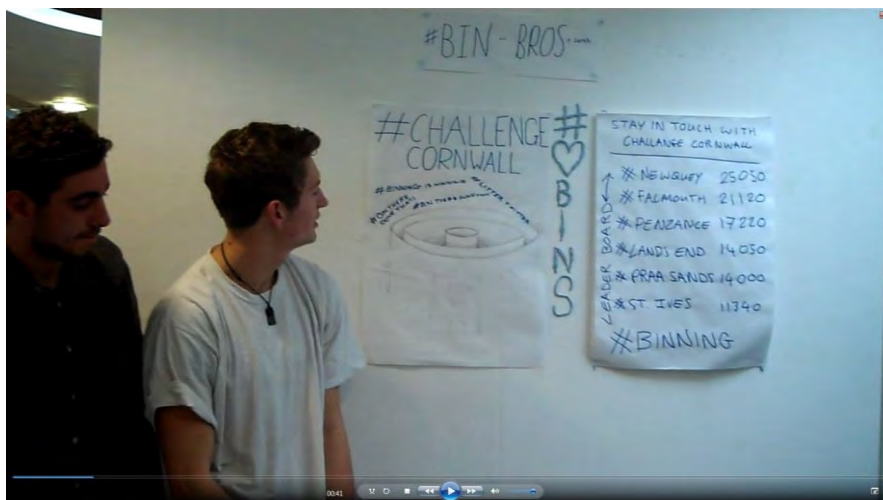
Figure 263. A selection of students' design response: using the waste-bin is transformed into a competition (a game) between Cornwall communities. '# Challenge Cornwall'.
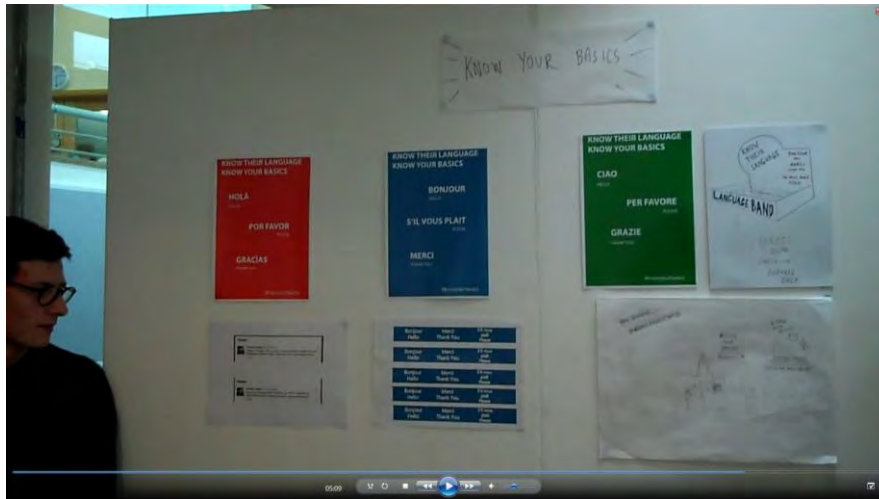
Figure 264. A selection of students' design response: A wrist-band for tourists that consists of basic local words and phrases. '#Know your basics.'

Figure 265. Promoting the wrist-band through a twitter message.

6.2.6.3   Workshop C: LEAP Design agency

Following on from compiling the ongoing 'Elements of Persuasion' table, and applying the table on the project's specific design approach (text-based messages), the next step was to design and conduct a one-hour workshop with LEAP, an eco-responsive design agency based at St. Austell, Cornwall (http://leap.uk.net/), in order to discuss research with an informed and relevant audience (professional communication designers), test initial conceptual text-based messages, and involve skilled people in the conceptualisation of sustainability communications.[113]

Figure 266. 'Communicating & Influencing Sustainable Behaviour' workshop with LEAP Design agency (photo by author).

The workshop was recorded and part of the discussion transcribed (see also 'Appendix 12'). To summarise the procedure, the workshop began by explaining its rationale, and then introduced the emerging area of Design for Sustainable Behaviour (Lilley's 2007 "axis of influence" & the strength of DfSB approaches), providing examples on 'the power of words', and introducing the 'Elements of Persuasion' Table (work-on-progress prototype), something that was also used as a design stimulus in the process (see Figure 265 below). Then,

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[113] Notably, the workshop took place at LEAP's creative studio, with the whole team of LEAP participating in the workshop – something that, first, was enormously appreciated, and, second, proves the team's willingness for playful learning and dedication to furthering sustainability in Cornwall and beyond.

participants were asked to form two groups in order to provide feedback on a series of conceptual signs aimed to be placed in hotel rooms in order to influence pro-environmental touristic behaviour. Each group was given a single evaluation form to share in order to stimulate discussion and debate amongst group members.
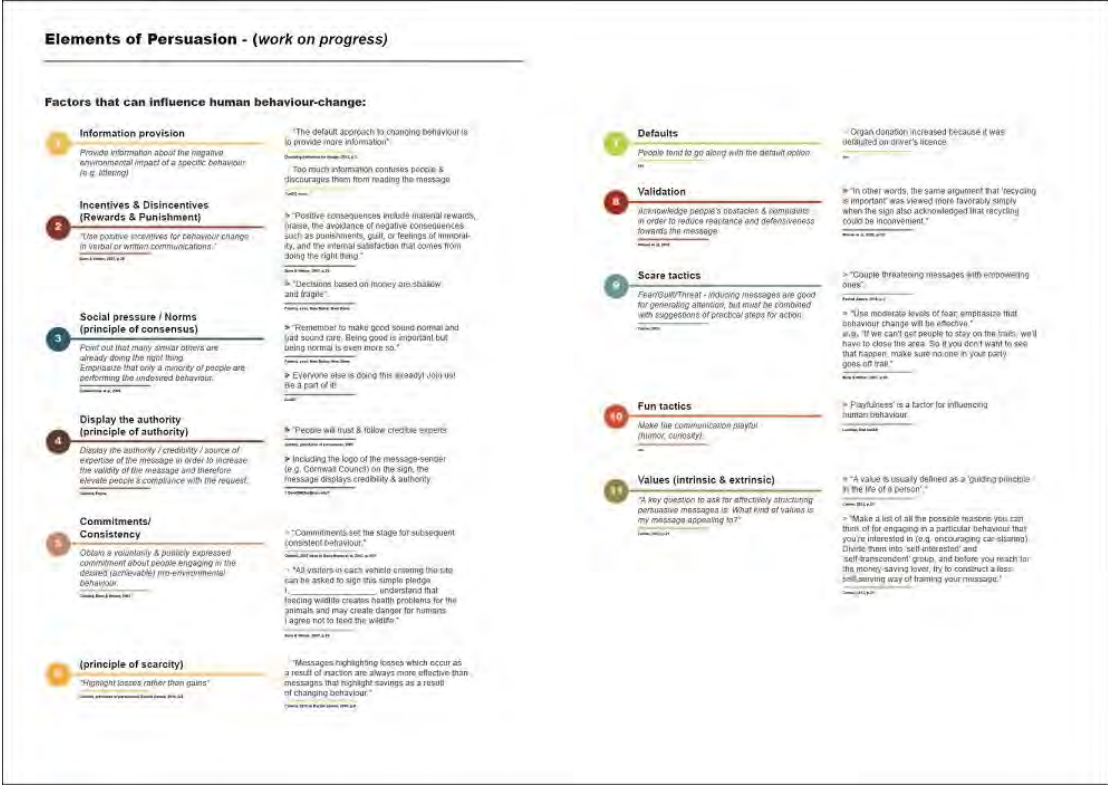
Figure 267. An example of design stimulus provided in the workshop.

Figure 268. Conceptual signs: testing the application of Elements of Persuasion on this project's specific design approach (text-based messages).

The evaluation of the conceptual text-based signs was two-fold: first, participants were given 10 minutes to quickly evaluate (using the red/green/amber stickers) the probability of signs in positively influencing desired behaviour,[114] and then, participants were given another 10 minutes to choose and evaluate, this time in detail, two signs of their choice, providing written-feedback in terms of wording, colours, typography, overall visual appearance, and which ones they think people could respond positively to (see Figures 267-270).

Figure 269. Three colour-marks for the 'quick and dirty' evaluation (method inspired by Futerra, 2007).

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[114] The linguistic structure of questions asked at this point followed this pattern: 'This is how I've written it. What do you think from your professional view-point? Overall, do you like it as a professional designer? Do you think it delivers the message effectively?'.

Figure 270. Communication-design experts evaluating conceptual signs (photo by author).

Figure 271. A selection of one team's evaluation form.
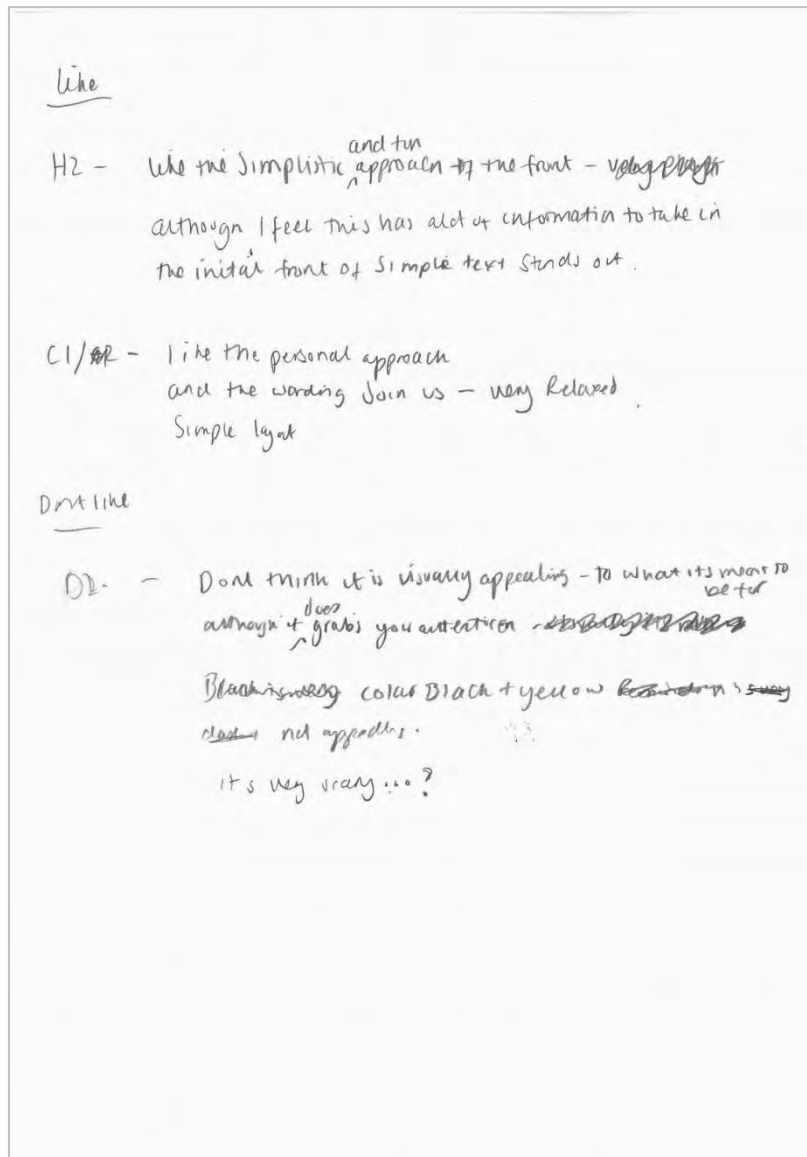
Figure 272. A selection of a more detailed evaluation.

At the next part of the workshop, participants were given 15 minutes to use the Elements of Persuasion table and other design stimulus provided and generate one conceptual message each.[115] At the end of the workshop participants were asked to unpick their concepts, and explain the overall thinking behind them (e.g., why is the language as it is, why have they used these words; see Figure 273).

Here, it is important to note that, apart from the fruitful evaluation of conceptual signs and idea-generation session, the workshop was also beneficial in terms of its consulting character; in other words, discussing with professional communication designers about the project's design criteria and its need for dematerialising solutions, helped the author frame the

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[115] At this point, participants were reminded to use as less words as possible, and also reminded of the paradox of this research: that we are trying to remind people that they need to care in a time where they mostly want to be care-free.

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scope of this project and decide how to distribute the research in a sensible way – and by doing so, this method helped to answer the research question from Chapter 4. This means that, discussing with designers from LEAP helped the author acknowledge that a web-based initiative would be a right kind of delivery mechanism for this research project; an interactive, user-friendly digital platform (website) as a resource framework accessible to the whole Cornish Tourism industry. Developing a simple but highly functional website would be a good way to disseminate and evaluate the research within a wide spectrum of tourism-businesses, allowing a high amount of feedback and comments on the effectiveness of each language-intervention.

Therefore, at this point of the project, the research question that arises is: can a web-portal be used as a distribution system for language and word interventions and engage a network of Tourism-related business to generate information about the effectiveness of the embedded design concepts?

Words that work: (suggestive terms & phrases for positive impact)

adapted from CoaST:

Thank you! Well done!
Thank you - we're all great! Being a green visitor makes you
a great person and we love you for it!
Everyone else is doing this already! Join us! Be a part of it!
...contagious change...ready or not...
Less of that means more of this (e.g. less rubbish, more clean & beautiful beaches)
It's where we spend our time together as families

utilize the words:

"because" (e.g. Please donate because it's very important)
"now" (e.g. Participate in the program now)
"imagine"

from website WaterWordsThatWork.com:

Make a Difference
Doing Your Part
It affects you
Here's what you can do
Working together
Save money
Before it's too late

http://www.water-wordsthatwork.com/our-methods/message-method/words|

from Futerra (Words that Sell; terms that describe a sustainable lifestyle; terms "that people liked and understood"):

Zero waste
Less is more
Second chance rubbish
Smart appliances
Energy-greedy appliances
Flight addict
Habitual flyer
Savvy driving
In-house generation
Independent power
Finite energy sources
One Planet Living
Green lifestyle
Conscious lifestyle
Square deal
Globally alert
Citizen consumers
Carbon footprint
Positive footprint

Figure 273. Another example of design stimulus provided in the workshop (thinking about ways to use design and language (in order to help tourists with their water and energy usage choices while staying in Cornwall).

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A discussion/debate followed around the suggested types of communication interventions.
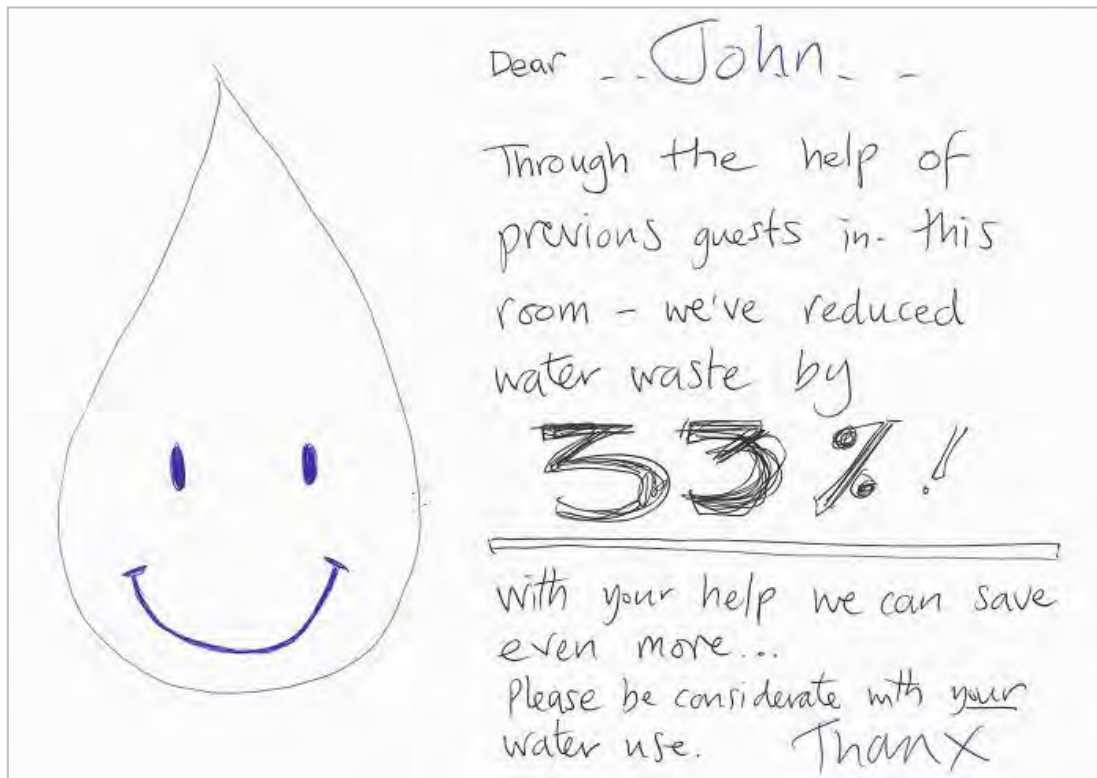
Figure 274. A selection of the workshop's results.

Figure 275. Discussion on every team's design outcomes (photo by author).

6.2.7 Email Communication

Brief communication through informal emails.
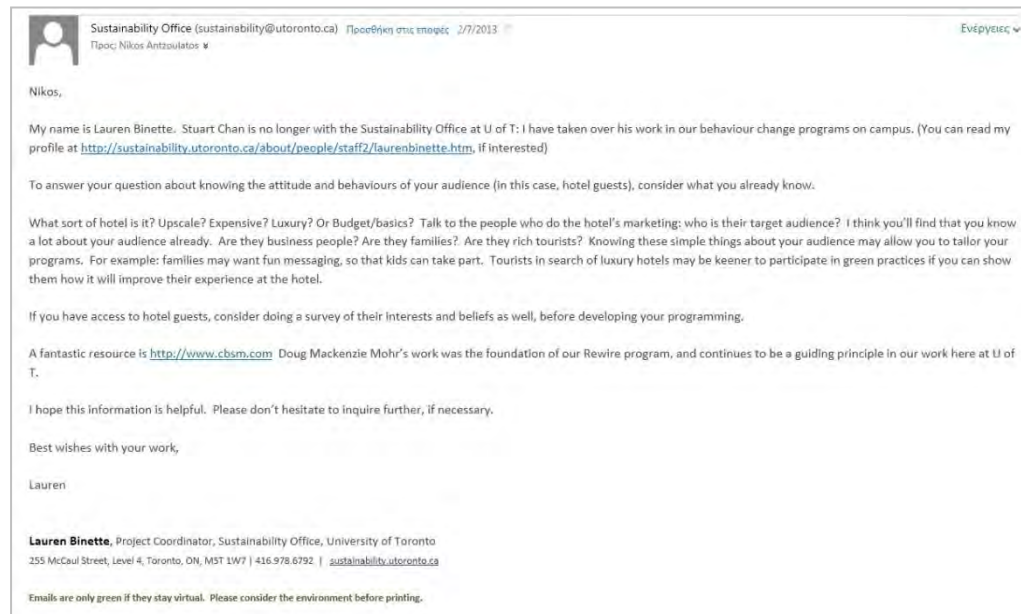
Figure 276. Advice on 'knowing your audience' from Lauren Binette, Sustainability Office, University of Toronto.
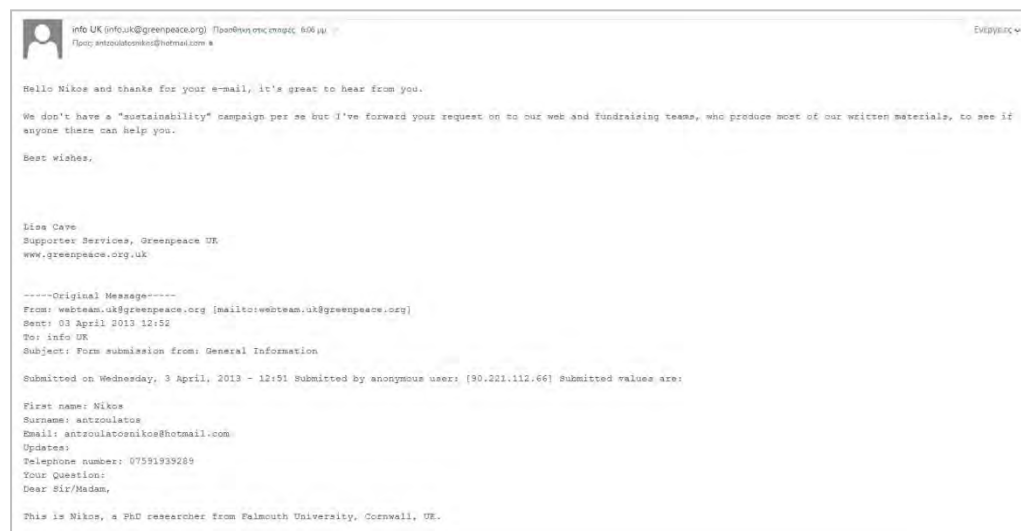
Figure 277. An attempt to get some advice on GreenPeace's (UK) sustainability campaigns.

Chapter 7: 'Triggers for Change' Webtool Development and Evaluation

7.1   Summary of Chapter 7

Following the examination of a befitting research methodology and the recognition of this project's aims and objectives, this Chapter describes how the User-Interface (UI) of the Webtool was developed and illustrates the iterative design process followed in order to prototype a design response that consolidates this practice-based design research. By doing so, this Chapter demonstrates the role of Sustainable Design as an effective medium to change touristic behaviour, lessen its impact and support sustainability in Tourism, thus promoting a low-carbon, sustainable society.

More specifically, this design research consists of an original project section in which new knowledge is consolidated in the form of a webtool called 'Triggers for Change': a digital platform, developed and evaluated through an iterative Heuristic Evaluation design process, which serves both as an online resource framework for the Tourism sector, as well as a digital platform for popular discourse. More specifically, as we have already discussed in previous chapters:

- Tourism-businesses (members of CoaST network) already pursuit taking an active role in promoting sustainability in their business practices, and encouraging sustainable behaviour from their visitors.
- We identify the need to assist tourism-businesses (accommodation-providers), who wish to take an active role in furthering sustainable tourism, by improving the effectiveness of their sustainability communications with their visitors.

'Triggers for Change' is an accessible, user-friendly webtool for the Cornish Tourism industry that aims to improve the persuasiveness of accommodation-providers' sustainability communications with their visitors, therefore minimising the industry's contribution to CO_2 emissions and climate change, and, thus, furthering Sustainable Tourism in Cornwall.

Following the feedback from the evaluation of the webtool (personal interviews, focus groups), it was acknowledged that the design response was well received by tourism-businesses who argued that Triggers for Change has great potential, and expressed their interest in using the webtool's sustainability messages in their business context.

Design concept

A

Design concept

B

Design concept

C

version **0.0**

version **0.1**

version **0.2**

version **0.3**

version **1.0**

Paper-prototype (initial, exploratory method)

re-design

re-design

re-design

Final webtool UI design proposal

Delivery medium:

Wordpress (WooCommerce)

+ 1. Ready-made messages
2. Instant download and use in business context
3. Similar to online merchandise layout

– 1. No theory for users
2. Dynamics of selling rather sharing
3. The look of graphics rather than language and words
4. Re-inventing the wheel

Delivery medium:

Wix

+ 1. Users create their own message (static message canvas)
2. A checklist of prompt questions
3. Users can understand why persuasive elements are important

– 1. Too complex for target audience
2. Requires a certain level of communication skills to translate theory into practice

Delivery medium:

Balsamiq Mockups (User-Interface)

+ 1. Dynamic drag 'n drop interface (dynamic message canvas)
2. The power of persuasion instantly available through the click of a button
3. 'Why is this important?' section is optional
4. Social networking platform for sharing what works best

first evaluation

second evaluation

third evaluation

This is my idea **WHAT**   This is how it works **HOW**

This is how it works **HOW**

Focus group AIR Sandpit with tourism-businesses

Personal interviews Heuristic evaluation with web-design experts

Personal interviews Heuristic evaluation with web-design experts

Feedback/ Suggestions for improvement

Usability problems identified / further suggestions for improvement

Usability problems identified / further suggestions for improvement

Figure 278. The iterative design process of 'Triggers for Change' webtool.

7.2   Developing the Webtool

7.2.1   Webtool Design Concept A

Initial attempts to prototype a digital platform that consolidates this research began with cloud-based web development platforms, that are widely used and offer online customer support. This Webtool concept's intention was to deliver the website through "WordPress", an open-source tool (Wordpress, 2012),[116] utilising specifically an eCommerce plugin called "WooCommerce" (WooCommerce, 2012). After purchasing a basic domain account from "One.com" web hosting server (One.com, 2012), purchasing a customisable theme for WordPress (theme name: "Sentient"), and learning how to install the software via a File Transfer Protocol (FTP) program (such as FileZilla), Webtool Concept A was initiated online at the following domain name (URL):

http://triggersforchange.co.uk/wordpress/

The main philosophy of Webtool Concept A was to be a digital platform that provided ready-made sustainability signs (which means each message would consist of 'fixed' elements of persuasion). In this case, the sign is the product (the Touchpoint); that is why designing the webtool similar to a layout of an online merchandise shop seemed appropriate in the beginning of the ideation phase, because users could easily choose a persuasive sign and:

- either download it, print it and instantly use it in their business context
- or order the sign (engraved in more solid materials), receive it by post, and then use it in their business context.

Then, after a specific period, it would be agreed from tourism businesses (webtool users) to provide feedback on the effectiveness of their chosen sustainability messages (for example, by comparing their energy bills before and after using the sign/webtool).

Nevertheless, during the creative process and taking into consideration the insights from a small field-test with a Cornish farm-cottage owner (see 'Appendix 13'), my supervisory team and I realised there are two main barriers with this design approach. First, this design approach inadvertently encouraged research-participants to put their emphasis on the 'graphics' part of a sign, and discard or approve signs mostly based on visual aesthetics – the 'design look' of the words, rather than language itself and the behavioural science that underpins it. Therefore, this design concept as a research method was drifting away from the project's main objectives

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[116] Here, it is noted that Wordpress.org (the self-host software), and not Wordpress.com, was chosen because with the latter one cannot have as much creative flexibility as with the first, such as upload custom themes and plugins.

because, as we discuss in Section 3.5, even though this research widely recognises the persuasive power of colours and images, nonetheless, due to time constraints, this research focuses on the use of words as the principal mechanism for trying to achieve behavioural change.

Consequently, the webtool, as well as the methodology, was starting to adopt the dynamics of 'selling' rather than 'sharing', and, thus, the author of this research was taking the role of a 'salesman' (someone who tries to convince and sell products/signs to hoteliers in order to further the project) rather than a 'researcher' (someone who investigates the underlying reasons for people behaving the way they do, and what it linguistically takes to influence human behaviour).

Moreover, it was also realised that Webtool Concept A was just reinventing the wheel; for example, there was no point in trying to prove again if a sign that employs 'social norms' works in influencing hotel-visitor's behaviour – this had already been widely demonstrated (see Chapter 4). Therefore, it was a conscious decision to stop developing this concept and refrain from engaging in design experiments that try to prove more of the same.

Thus, the researcher needed another way to offer insights from existing studies to the Cornish tourism industry in order to assist them with their sustainability communications with their visitors.

Some screenshots from the Webtool Concept A, as evidence from the development process, can be found in the following Figures:
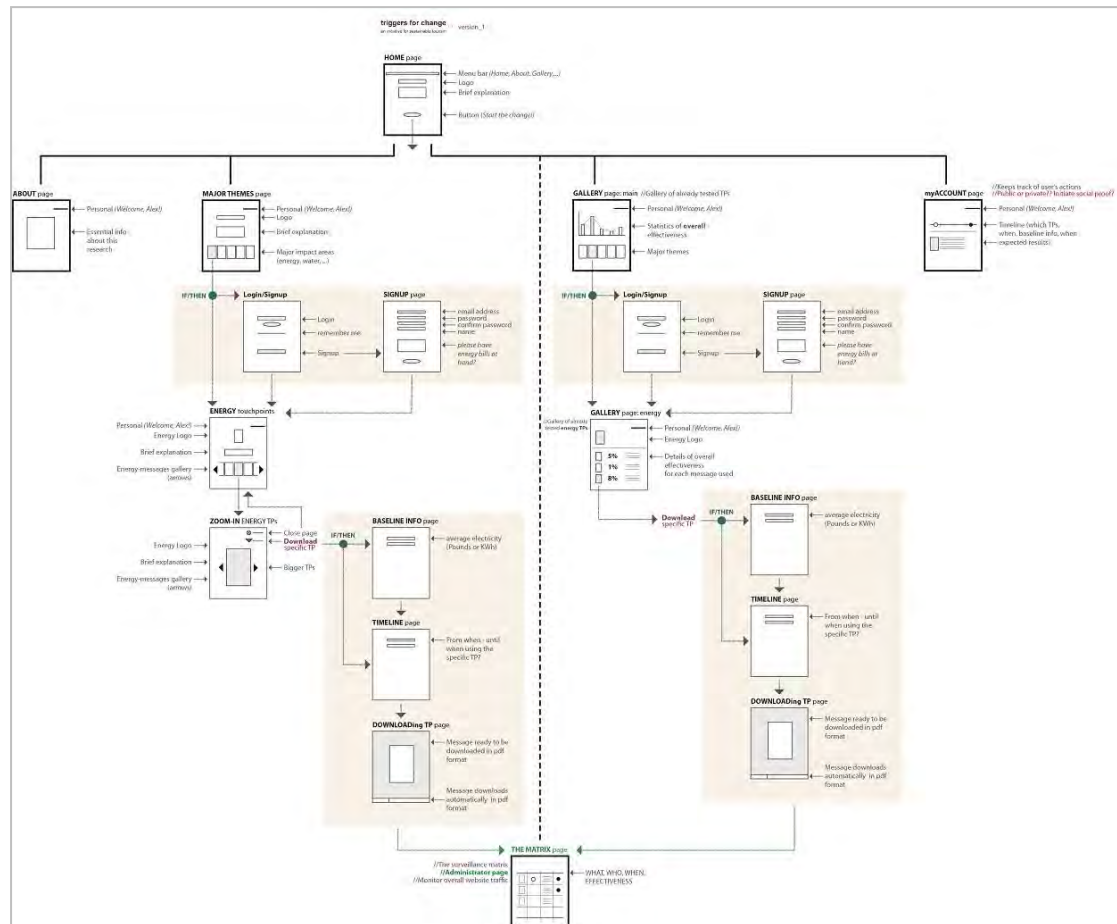
Figure 279. Developing a mindmap for 'Triggers for Change' webtool.
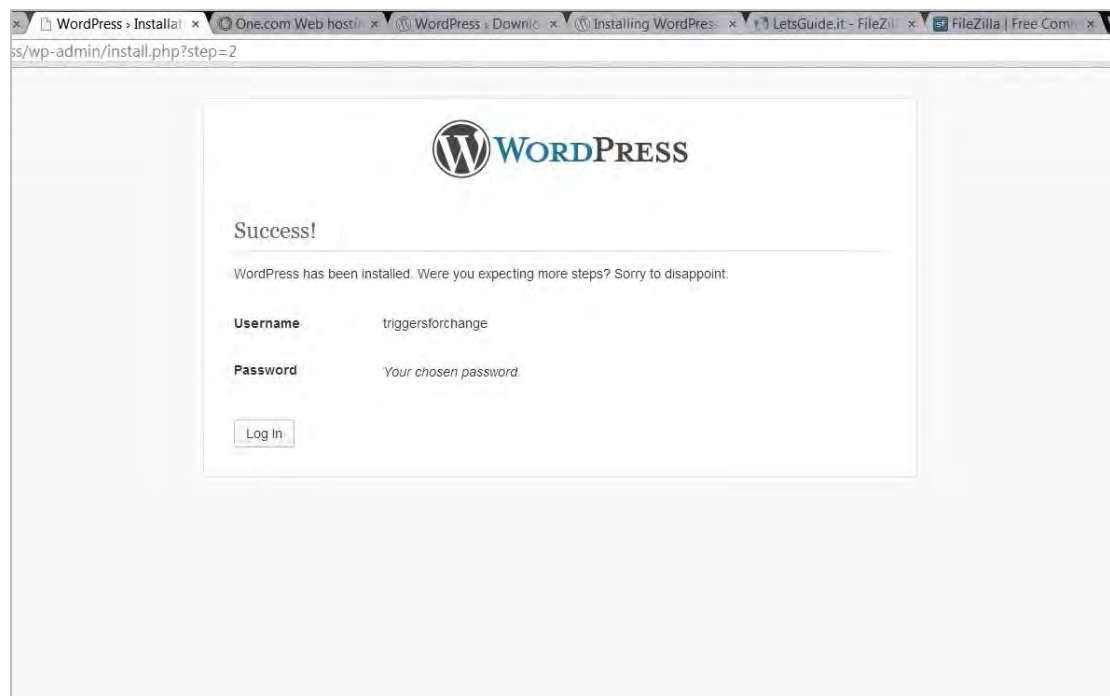
Figure 280. Installing the customisable version of WordPress via FileZilla

(a File Transfer Protocol (FTP) program).
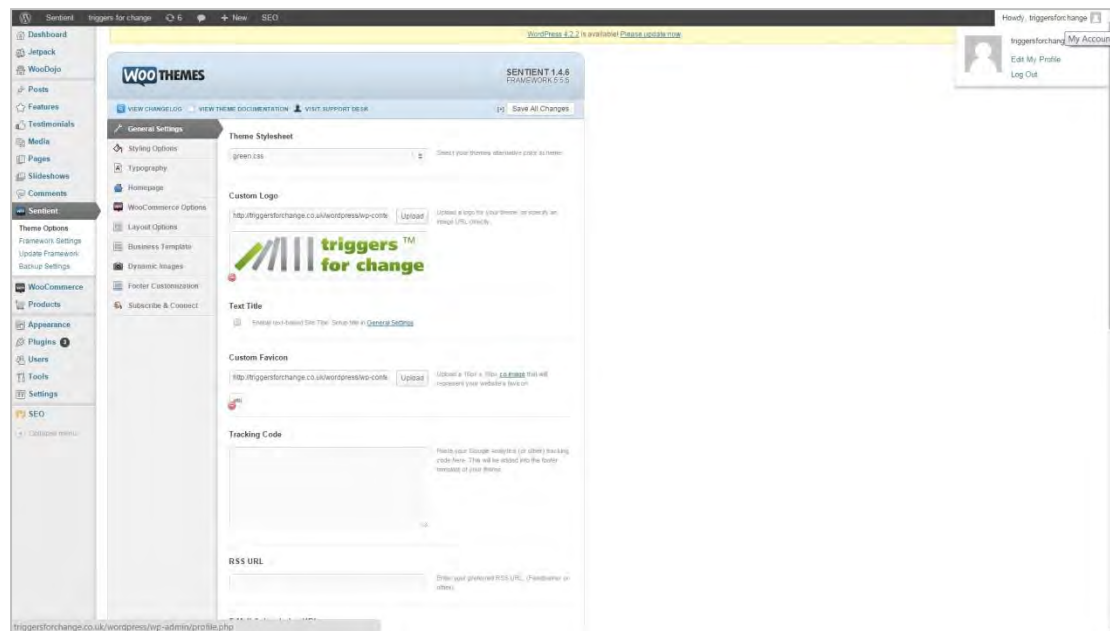
Figure 281. Screenshot from developing Webtool Concept A using WordPress (Sentient theme,

WooCommerce).

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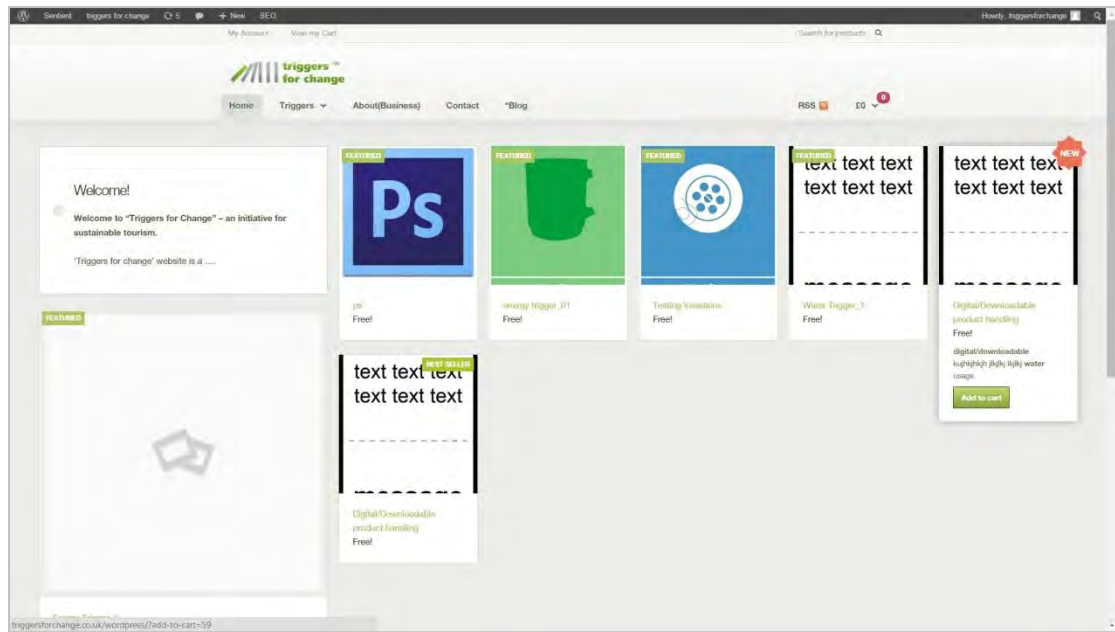
Figure 282. Developing the 'Triggers for Change' (Concept A) homepage (upper part).
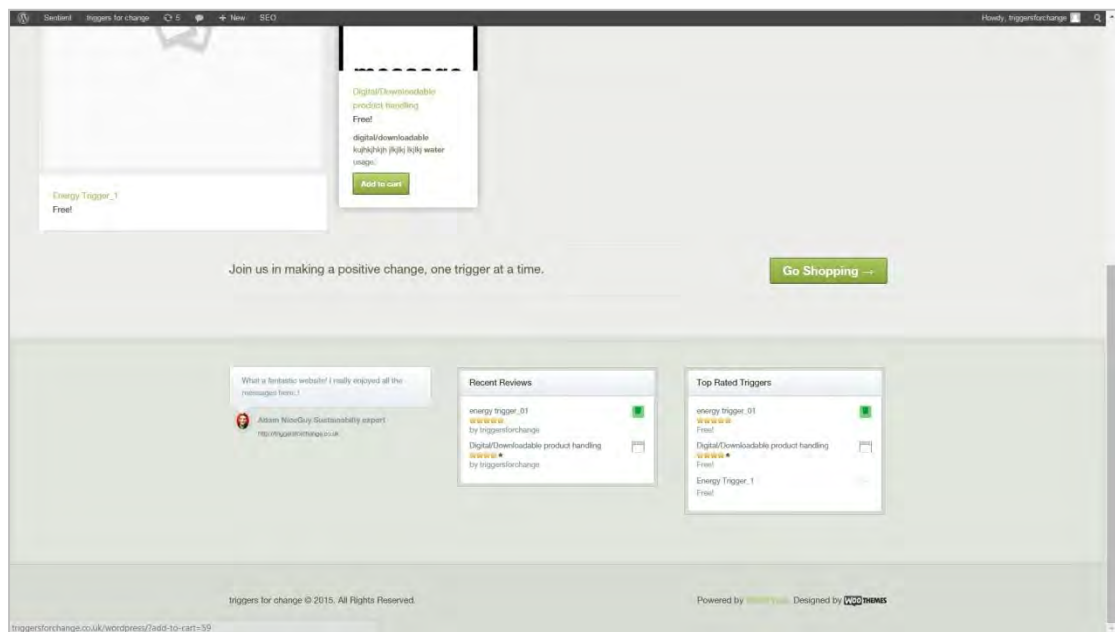
Figure 283. Developing the 'Triggers for Change' (Concept A) homepage (bottom part).
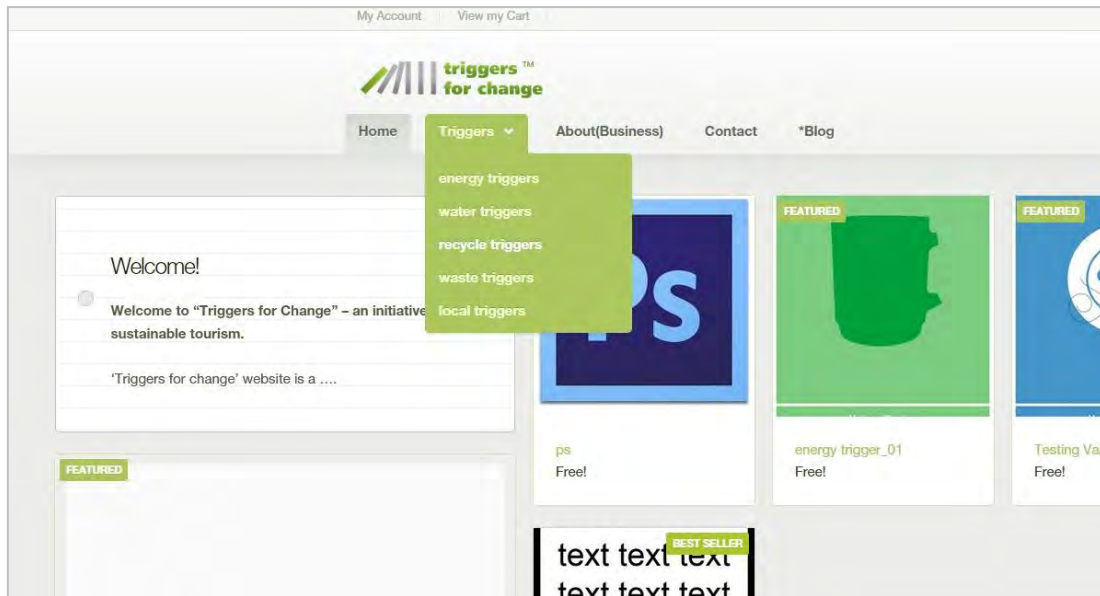
Figure 284. Main menu: categorising signs ('Triggers') according to sustainability themes revealed from primary data analysis.
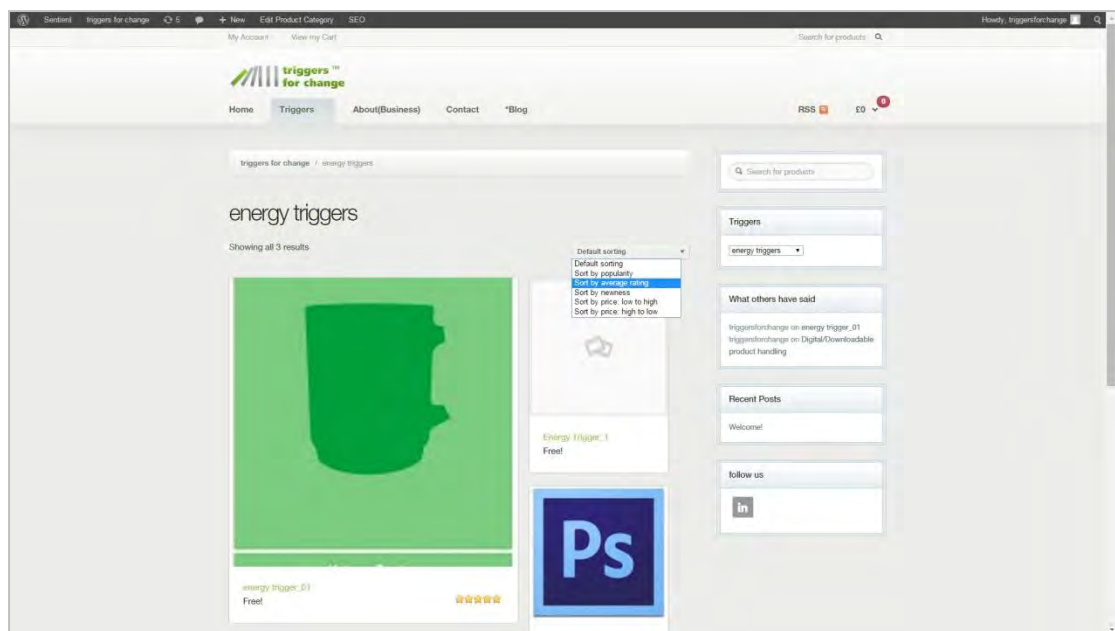
Figure 285. Energy Triggers: this section includes all signs that are related to the 'Energy' theme.
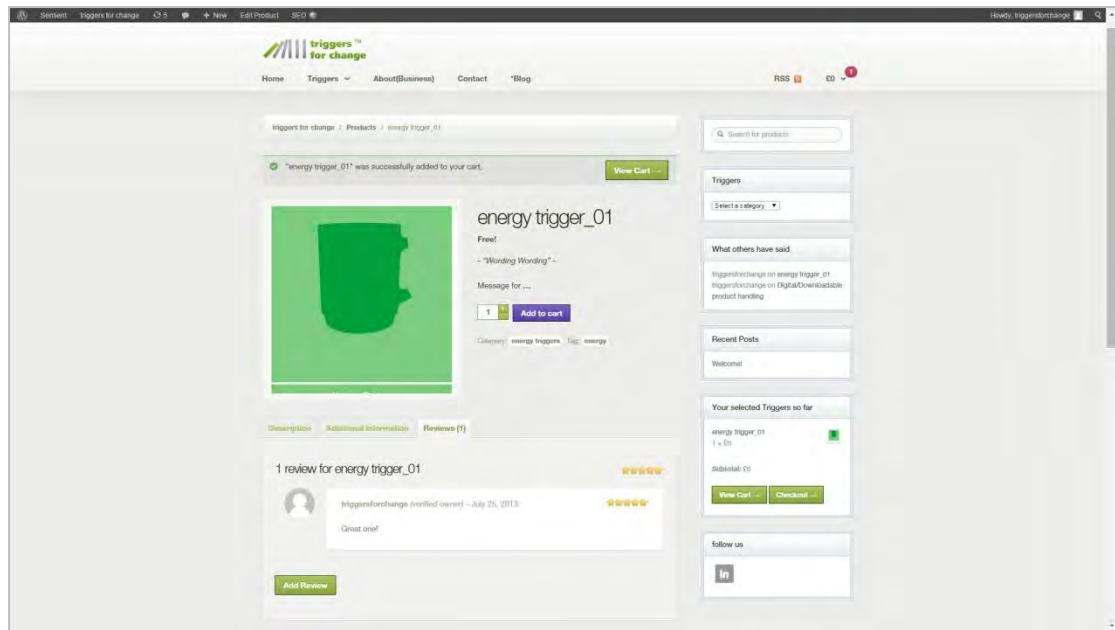
Figure 286. Choosing to use a specific sign (for example 'Energy Trigger 01').
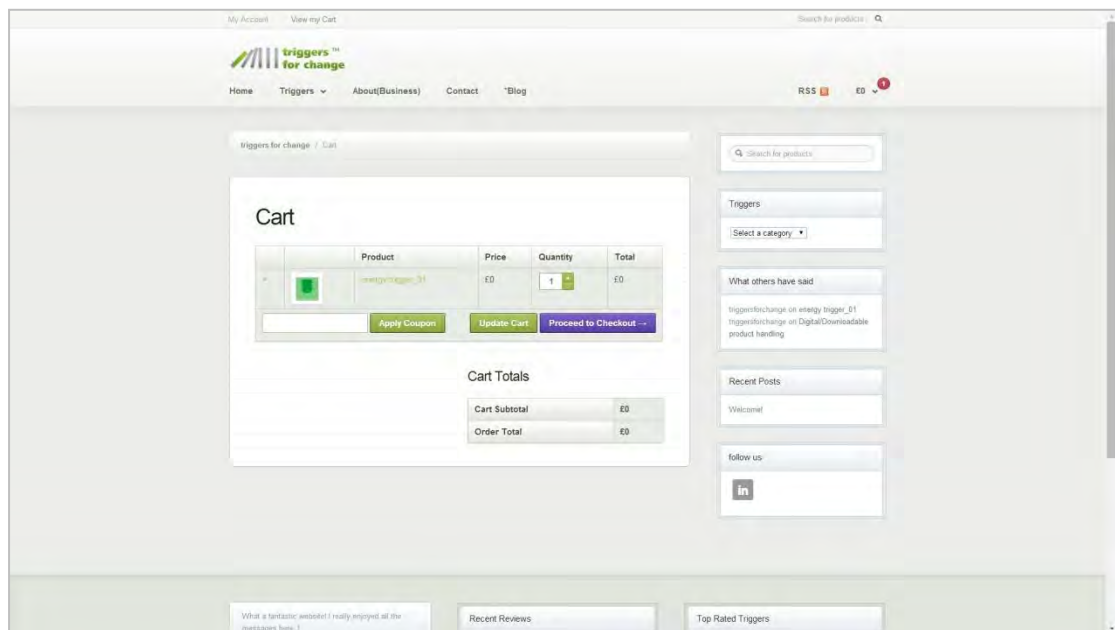
Figure 287. Shopping cart: Concept A layout resembling an online merchandise shop where

the sign is the product which can be added to cart and instantly downloaded.

Figure 288. Checkout: a way of managing the research-participants database.

Figure 289. Order placed: signs can be downloaded or sent by post.

Figure 290. Sustainability sign downloaded and can be instantly printed and used (trial version).
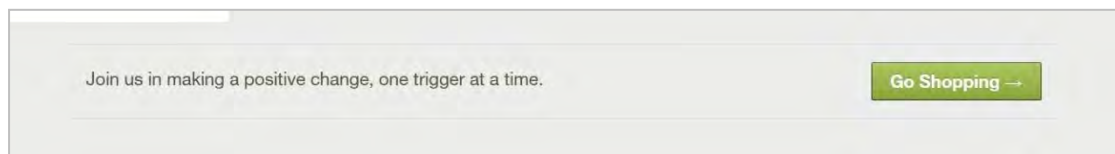
Figure 291. Webtool Concept A encouraged 'selling' rather than 'sharing'; something that eventually did not embody the desired dynamics of a design response.

7.2.2 Webtool Design Concept B

The next attempt to create a webtool using a cloud-based web development platform was through "Wix" (Wix, 2013); an HTML5 website builder, that at this step of the design process was considered to be the next best option to use after WordPress due to its provision of online "drag 'n drop" tools. Therefore, after familiarizing myself with the Wix platform, 'Webtool Concept B' was initiated online at the following domain name (URL):

http://na144380.wix.com/triggersforchange

Instead of providing ready-made messages and, thus, imposing end-results to users, this time the main philosophy of Webtool Concept B was to be a digital platform that encouraged users to create their own text-based messages based on the webtool's suggestions. Inspired by DfSB tools (see Chapter 2), this Concept followed a similar character and layout. This means that the webtool would guide users through a list of suggested 'Elements of Persuasion', and step by step, through the form of prompt questions, it would enable users to explore persuasive communication techniques, checking with them if they are applying specific persuasive elements in their message or not (a layout similar to a checklist). Additionally, if the user wanted to learn more about the importance of each persuasive element, by clicking on the *'Why is this important?'* button, located right next to the main question, the user could access illustrated examples and case-studies that provided users an opportunity to understand and learn more about the persuasive elements suggested.

In short, 'Webtool Concept B' essentially consisted of:

- a static 'Message Canvas' where users can create their own message
- a checklist that consists of persuasion techniques (based on the 'Elements of Persuasion' table) along with a question in the form of *'Does your text use'* or *'Can your message use'* section that suggests various words and phrases (derived from Roget's "Thesaurus of English Words and Phrases"),[117] serving as the user's main guiding point to construct their message.
- a *'Why is this important?'* section that explains the importance of each element suggested, through illustrated examples and case-studies (in the form of digested and simplified academic theory).

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[117] See 'Appendix 17'.

Nevertheless, during the creative process, my supervisory team and I realised that there were two main barriers with this design approach. First, this Concept, despite its useful suggestions, lets its users almost completely on their own to translate theory into action. This means that this approach was not addressing properly the characteristics of the target audience (Cornish accommodation-providers) as explained in the Design Criteria (see Chapter 5). Thus, it soon became apparent that Webtool Concept B was too complex because of its over-reliance on inspiring users (telling users WHAT: *"if you use this influence strategy, your message becomes more persuasive"*, but not showing them HOW). This means that, like most DfSB tools, Concept B also remained at a suggestive level of merely asking: *"Can you do that?"*. Notably, asking that type of question may be inspiring for people that already have a certain level of communication skills and are able to translate theory into action, but communication skills is not a design criterion for this research project. Additionally, in regards to the *'Why is this important?'* button, it was not a question of users 'wishing' to learn more; in order to use the website properly users had to unavoidably enter the section of learning more about each concept. This was perceived from the supervisory team as a barrier to the user-friendliness of the webtool.

Thus, it was not long until it was realised that a different design philosophy was needed; a design philosophy that matched the subject matter and properly addressed the needs of the intended audience. The current state of 'Triggers for Change' website contained a sufficient amount of behaviour-change communication principles but written in a formal academic language. It was agreed to filter and simplify the website content to properly address our target audience of users, in a plain, everyday tone of language; transform the language-tone in order to enhance the usability of the webtool, because clear terminology presented in a simple way makes a website more easy to use and understand. Therefore, the next step of re-design would be to translate theory into practical terms, available to use.

Notably, cloud-based web development platforms indeed are quite simple for users with no experience in creating a website, but they do have their limitations in terms of how flexible one can be with design choices; after two attempts with cloud-based web development platforms, it was realised that those limitations were preventing the author from truly expressing an appropriate design response.

Some screenshots from the Webtool Concept B, as evidence from the development process, can be found below:

Figure 292. Exploring Wix HTML5 website builder.
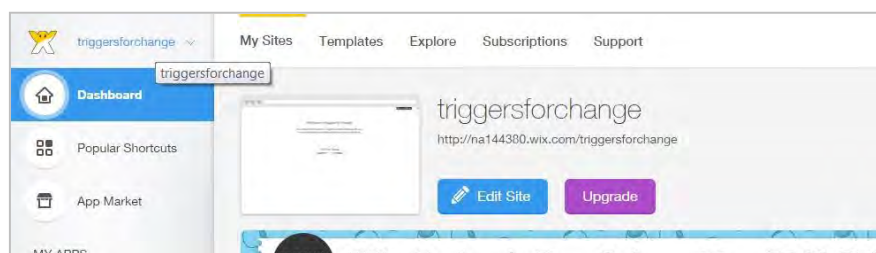
Figure 293. Obtaining a URL address.
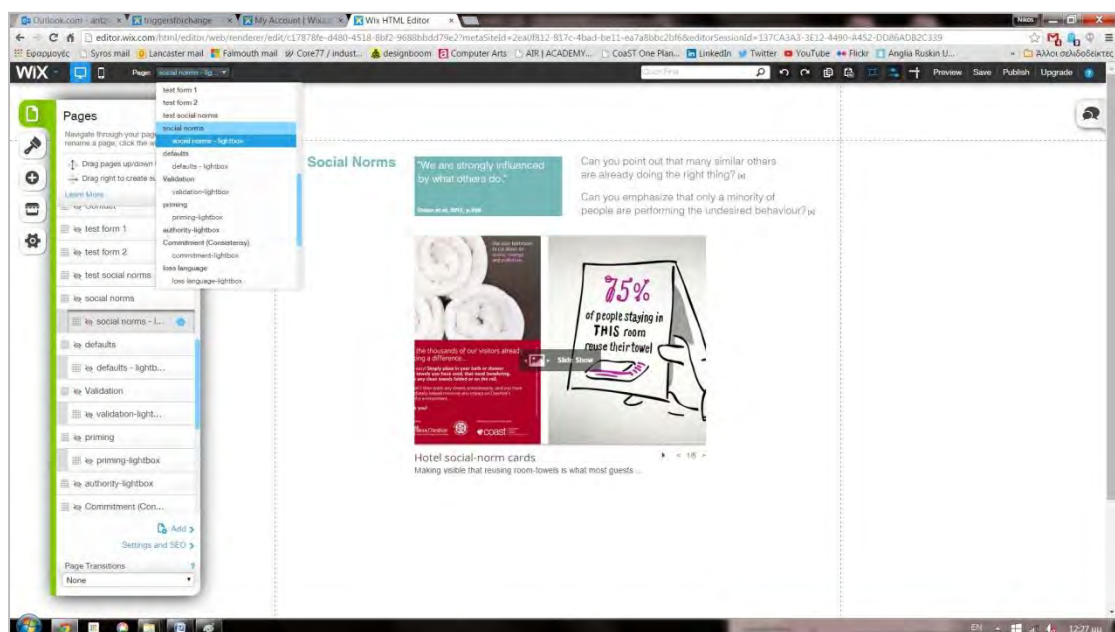
Figure 294. Screenshot from developing 'Design Concept B' using WIX.

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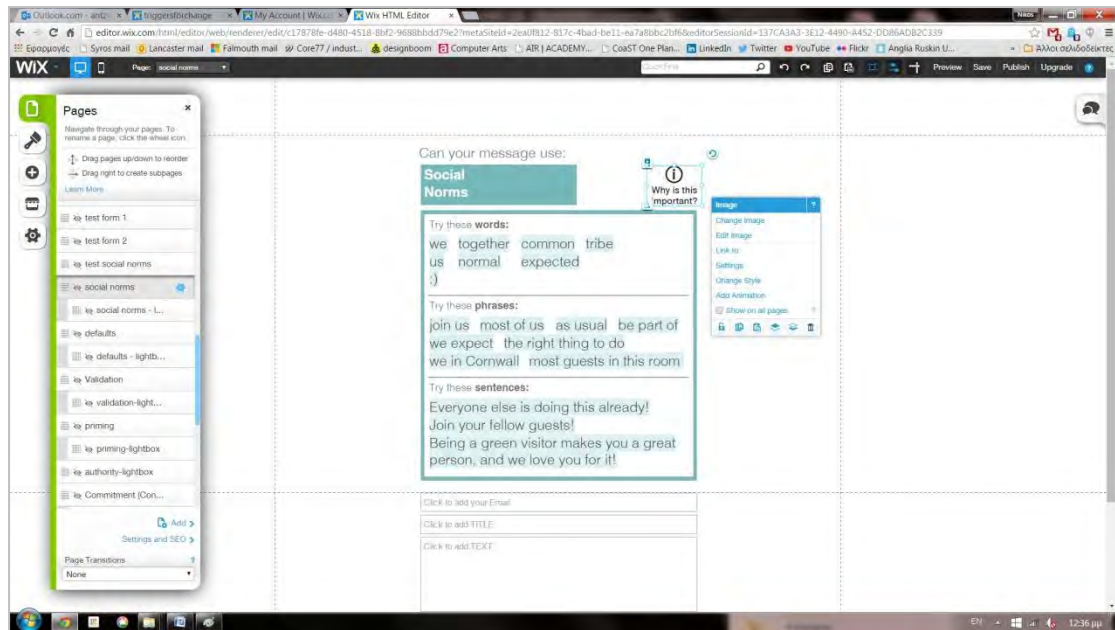
Figure 295. Screenshot from developing 'Design Concept B' using WIX.
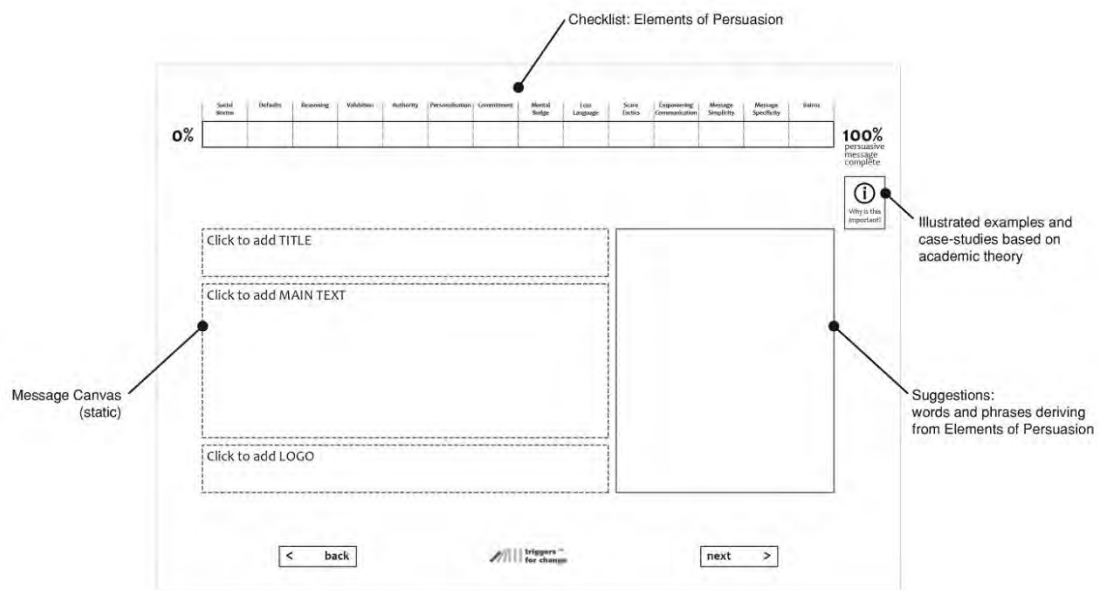
Figure 296. Initial mock-up consisting of the main functionalities of the webtool.

Below, screenshots from initial mock-ups are provided as a demonstration of Concept B's main design idea: that an initial request can be enhanced with adding words of influence.

Figure 297. The user starts with a first version of their message: for example, the above message initially reads 'Flush' in the title section, and 'Please do not flush the toilet when the train is at a station' in the main text section.

Figure 298. Before/After: a small example of how the webtool can enhance the effectiveness of a behavioural request by using influence factors from 'Elements of Persuasion' table.
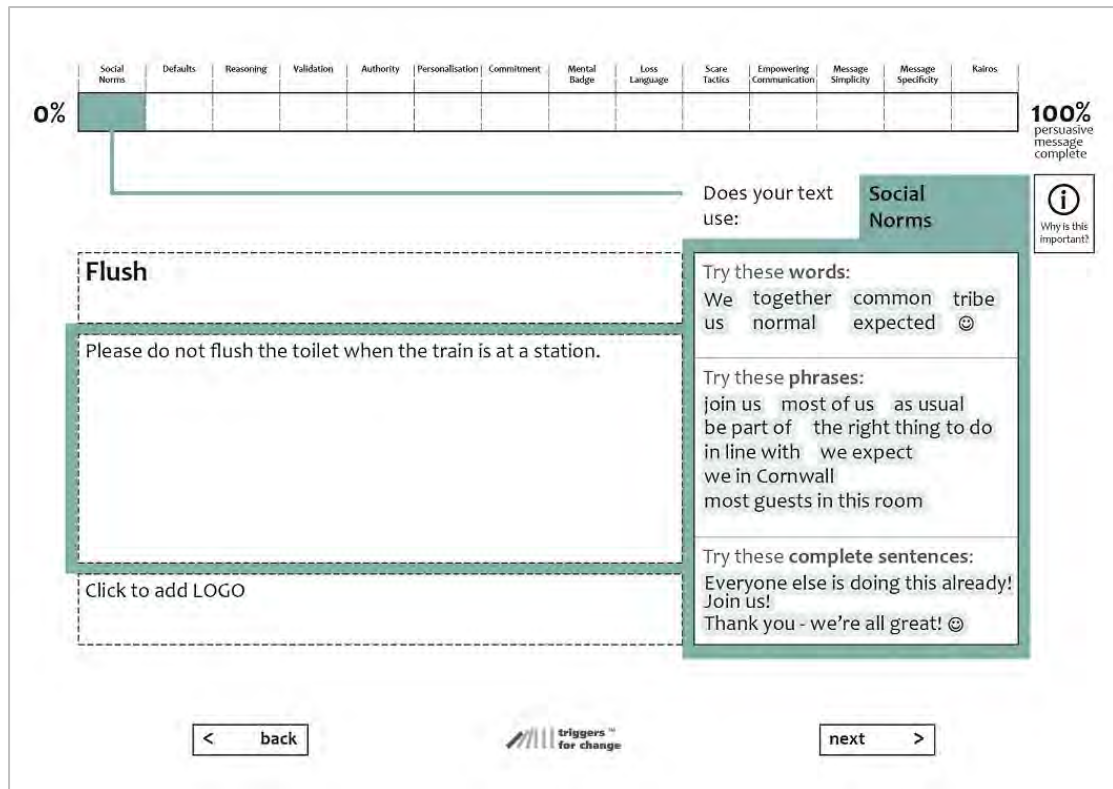
Figure 299. Users start to appropriate their text according to suggested persuasive elements.
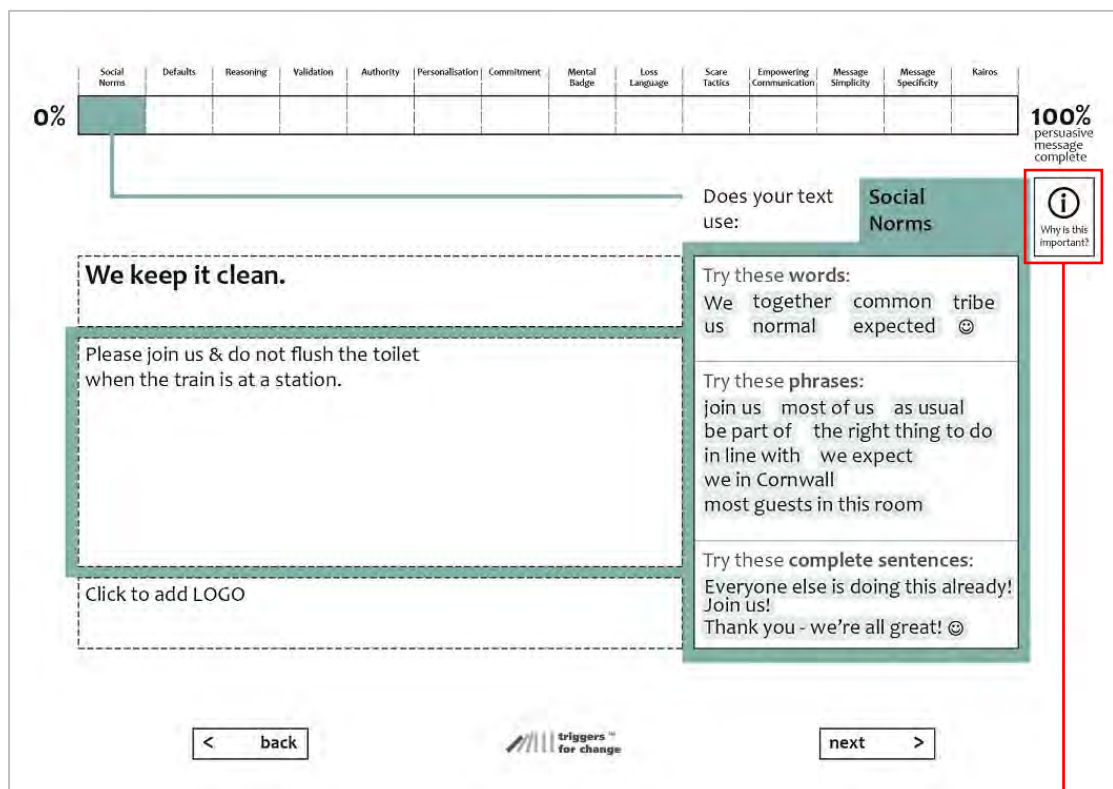
Figure 300. Pressing the 'Why is this important?' button, at the top-right corner of the interface.

Figure 301. By pressing the *'Why is this important?'* button, the user is transferred to an inspiring section that consists of illustrated examples and case-studies from academic theory.
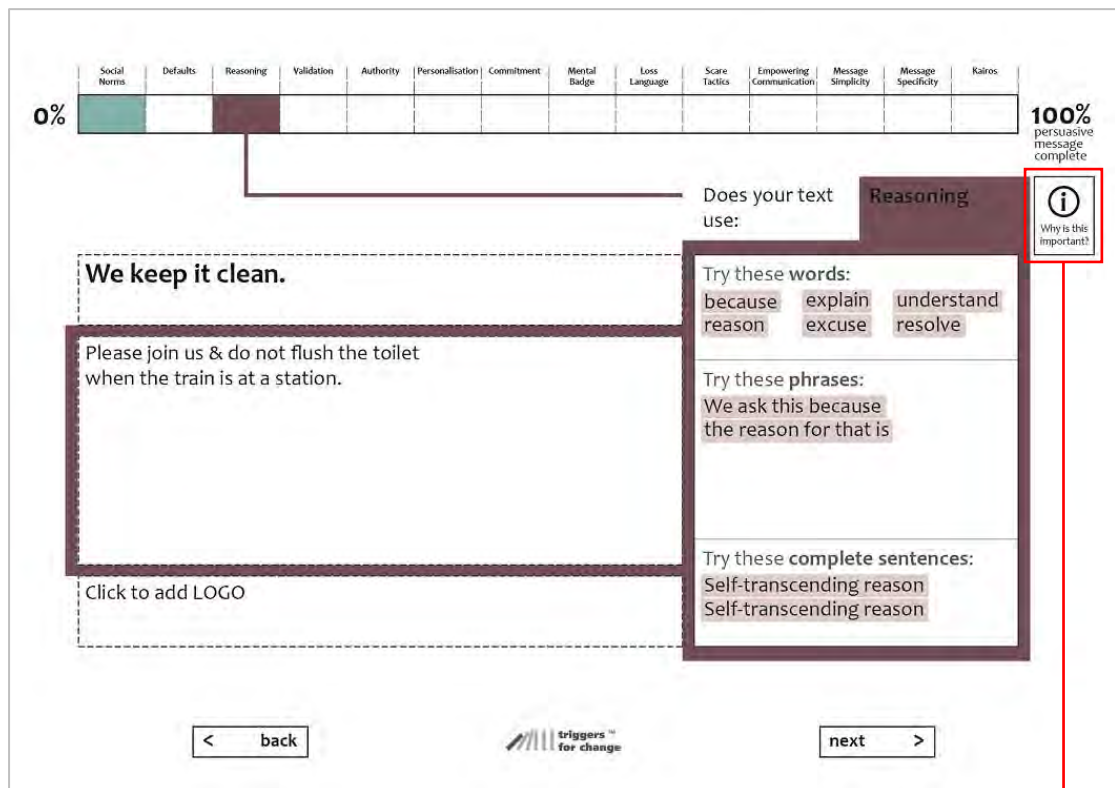
Figure 302. The checklist continues to another persuasive element ('Reasoning').
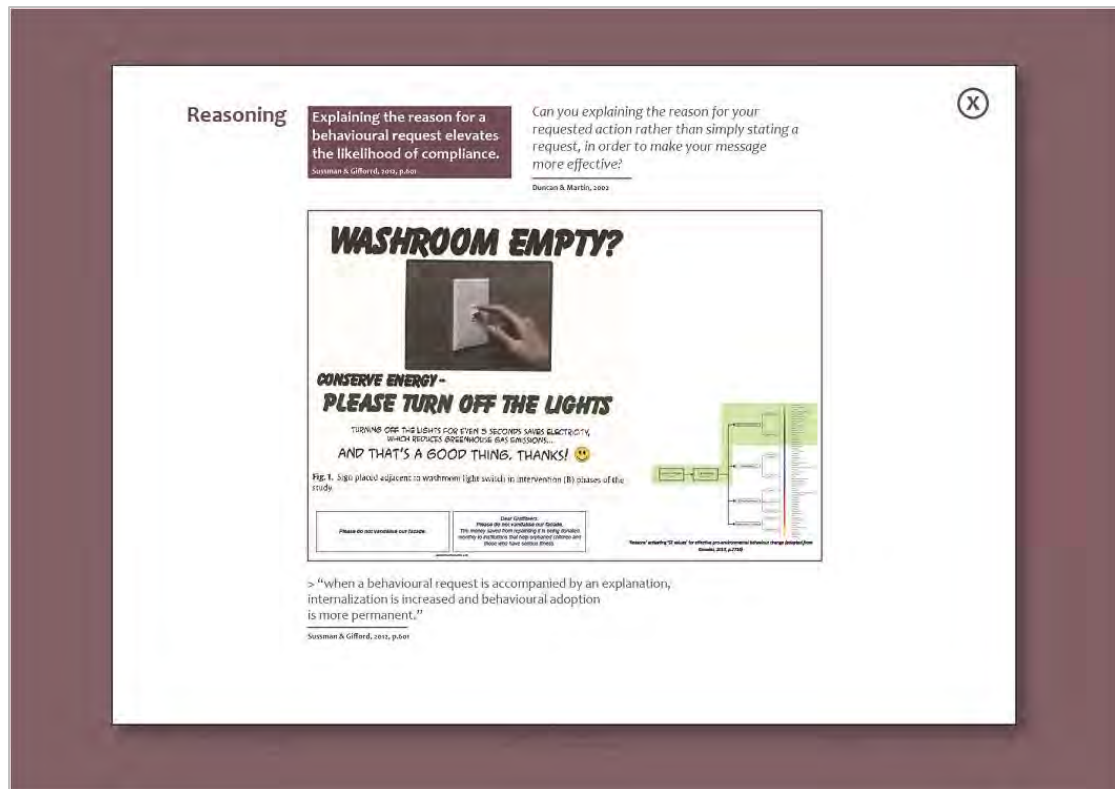
Figure 303. Illustrated examples and case-studies explaining the importance of 'Reasoning'.

Figure 304. Users appropriate their text according to 'Reasoning'.

Figure 305. The checklist continues to another persuasive element ('Validation').

Figure 306. Illustrated examples and case-studies explaining the importance of 'Validation'.

Figure 307. Users appropriate their text according to 'Validation'.

7.2.3   Webtool Design Concept C

Webtool Concept C was the next attempt to prototype a digital platform that consolidates this practice-based research. At this point of the design process, it was decided by the author to accept his limitations in terms of website-coding and creating an online website, and move forward the project with the design skills and resources he already had at his disposal. Thus, the question that arose here was: how far can one go into the development of 'Triggers for Change' webtool without possessing the skills of a website coding expert? The answer is: by creating and delivering a mock-up version of the webtool and focus only on the design of the webtool's User-Interface (UI). Notably, a website coding expert will be needed to finalise the prototype and make it into a 'real', online website; an action that is suggested as a next, post-PhD, step.

Therefore, for Design Concept C, it was decided to use Balsamiq Mockups (2014), a wireframing software ideal for creating digital User-Interfaces. This enabled the author to create his own version of a user-friendly interface design, and fully express his design thinking in terms of HOW the UI platform would look like, and WHAT the tool can do, without the limitations imposed by free cloud-based software.

Thus, in this version of the webtool, theory is translated into concrete pieces of communication (linguistic devices); this means that 'Triggers for Change' webtool not only has the potential to make Cornish accommodation-providers aware of persuasion principles (see Webtool Concept B in the previous section) but also it can become a functional, user-friendly way to practically apply techniques of persuasive communication by the click-of-a-button. In other words, Webtool user's not only can become aware of the science of persuasion and understand why something might be a good idea to use in their communication, but they can also use the science through the click of a button. Thus, a strong, Unique Selling Point (USP) of the webtool is that through a single click of a button, the power of persuasion becomes instantly usable/readily available (user-friendliness).

Following on from Concept B, Webtool Concept C still consists of a "Why this works?" section that explains, through illustrated examples and digested academic case-studies, the importance of using the suggested 'Elements of Persuasion'. A notable improvement of Concept C is that users, if they do not want to, they do not have to go through that section in order to use the webtool, i.e. they do not need to be educated before they can use the powers of persuasion in their sustainability communications. Therefore, Concept C allows a faster and easier user journey to persuasive communication.

Main and improved features of 'Webtool Concept C' are:

- a dynamic 'Message Canvas', where users can create their message, through a user-friendly and dynamic drag 'n drop interface
- the 'Get Inspired' section that contains all factors that could make a (text-based) sustainability message more persuasive
- the 'What Others Are Doing' section, a social networking platform for users connecting and sharing their best experiences with sustainability messages, so everyone can learn from each other
- a 'Why this works?' section, that explains the importance of each element suggested, through illustrated examples and digested academic case-studies. This is optional, which means that users do not have to be educated about persuasion in order to use the webtool properly.

In short, Webtool Concept C collects all sorts of scattered and quite complex research, and not always very intellectually accessible information, and makes it really clear to its non-specialist users. A tool that brings together all the research and synthesizes it into elements that people can use simply and clearly, giving them the choice, based on their expertise of their own visitors, as to how to put the message together but also clearly showing them WHY something might be a good idea to use – instantly usable and user-friendly.

Figure 308. Non-scientific language: Translating the formal (and not always very intellectually accessible) academic language into a simple and clear text that this project's target audience (Cornish accommodation-providers) could easily and quickly access and use. (One of the webtool's strong points – user-friendliness).
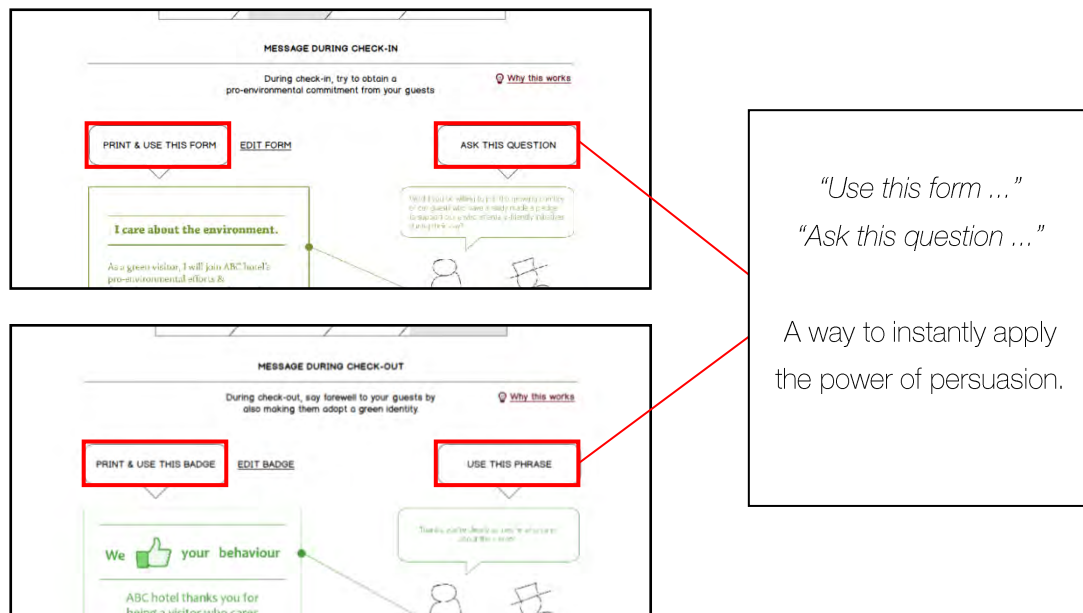
Figure 309. Excerpt from webtool user-friendly functions: Making the power of persuasion instantly usable through the click of a button.

What characterises the overall philosophy of this design response is 'flexibility and ease of use'. This means that with this tool users don't have to be experts in communication design in order to create a persuasive message about sustainable behaviour. Nonetheless, even if potential users are communications experts, this webtool can still be of use and accommodate their professional needs. Thus, "the system can cater to both inexperienced and experienced users" (see Nielsen's 'Usability Guidelines' in the following sections).

7.3   Webtool version 0.0 (Paper Prototyping)

Following on from crafting the table 'Linguistic Devices' (see Chapter 5), the next step of the webtool design process was to explore how all these elements of persuasion (objects of communication) could relate to each other on a single platform. Thus, before entering the wireframing software Balsamiq Mockups, the iterative design process of the User-Interface (UI) was initiated by employing the method of "Paper Prototyping": a famous, simple, fast and cost-effective technique for gathering usability insights during a User-Interface (UI) design process (Snyder, 2003, p.3). According to Snyder (2003, p.4), "anything that has a human-computer interface is a potential candidate for paper prototyping."

An initial, exploratory paper-prototyping session was designed and conducted with design PhD colleague Daniel Metcalfe in order to have a 'quick and dirty' evaluation on the design response and determine interface elements and appropriate interactions by allowing them to freely shape the main layout of the webtool's UI. Based on Snyder (2003, p.4), the basic idea of that session was to "determine some typical tasks that you expect the user to do" by making "screen shots and/or hand-sketched versions of all the windows, menus, dialog boxes, pages, data, pop-up messages, and so on that are needed to perform those tasks." This method also helped to re-consider the main layout and navigation of the message canvas.

Figure 310. Inside author's room: preparing the Paper Prototyping session (photo by author).
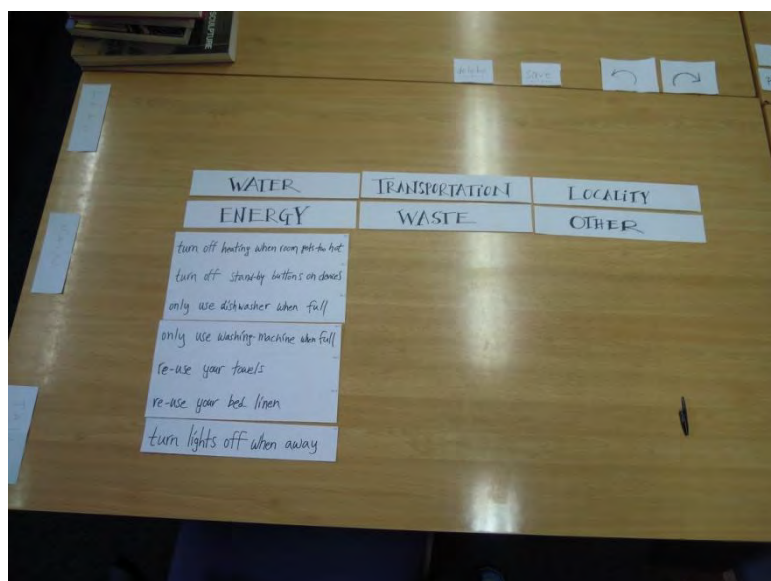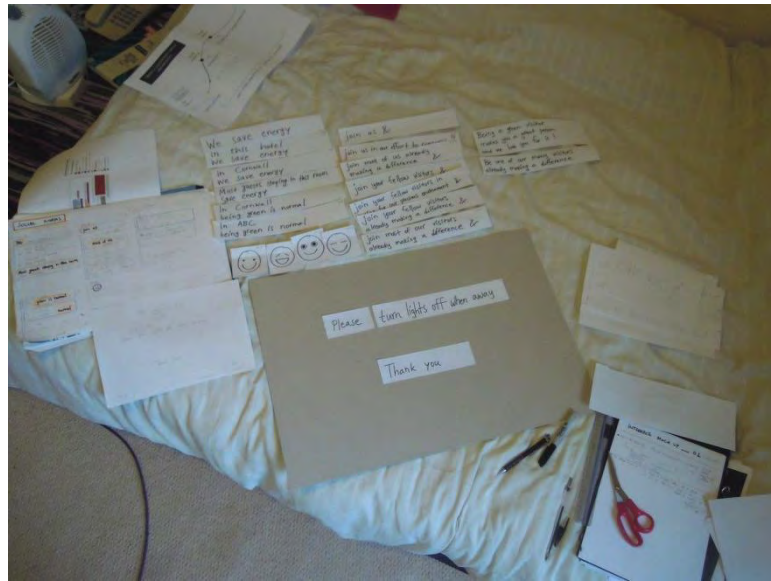
Figure 311. Employing the method of Paper Prototyping with designer Daniel Metcalfe (all photos by author).

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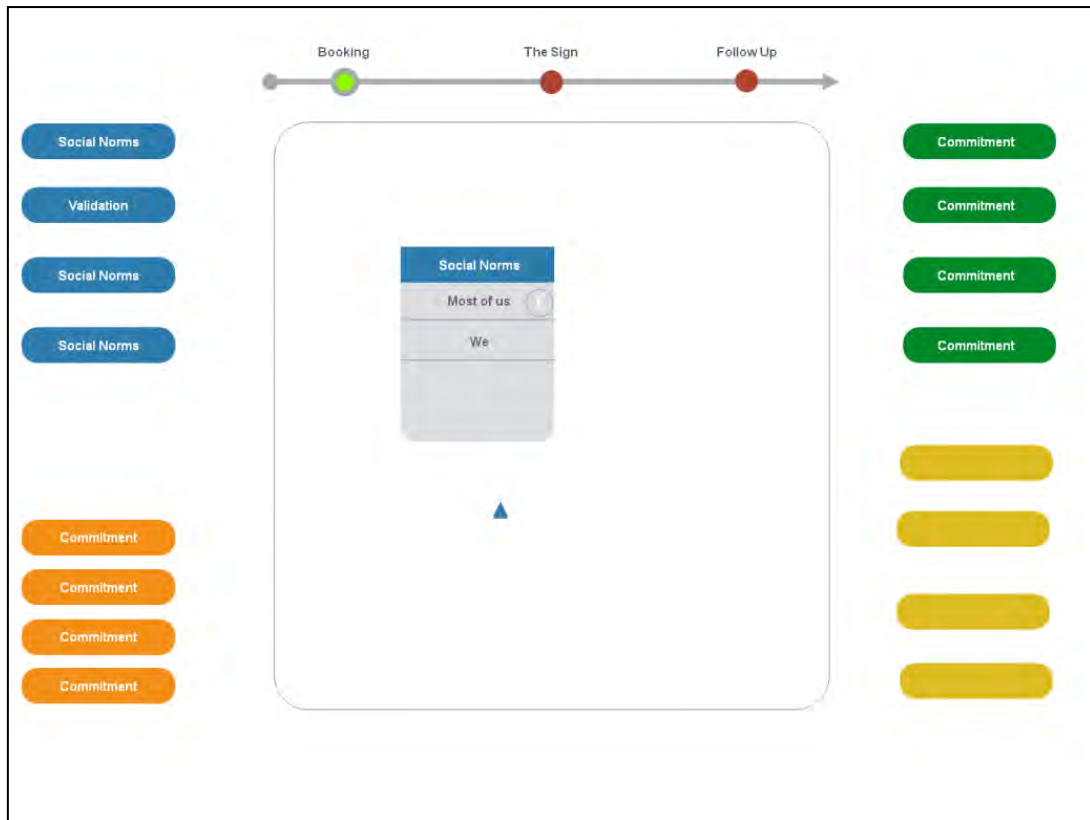
Figure 312. Paper Prototyping helped to re-consider the main layout and navigation of the message canvas.

Figure 313. Paper Prototyping helped to re-consider the main layout and navigation of the message canvas.
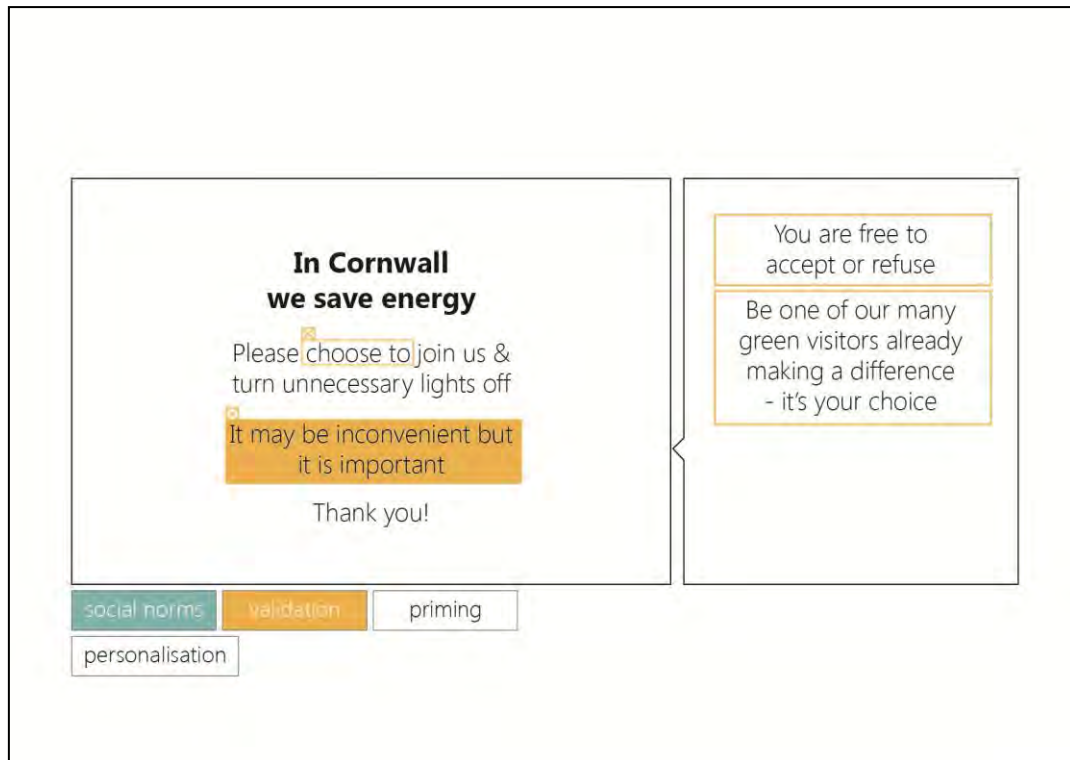
Figure 314. Paper Prototyping allowed to determine interface elements and appropriate interactions without any software restrictions.
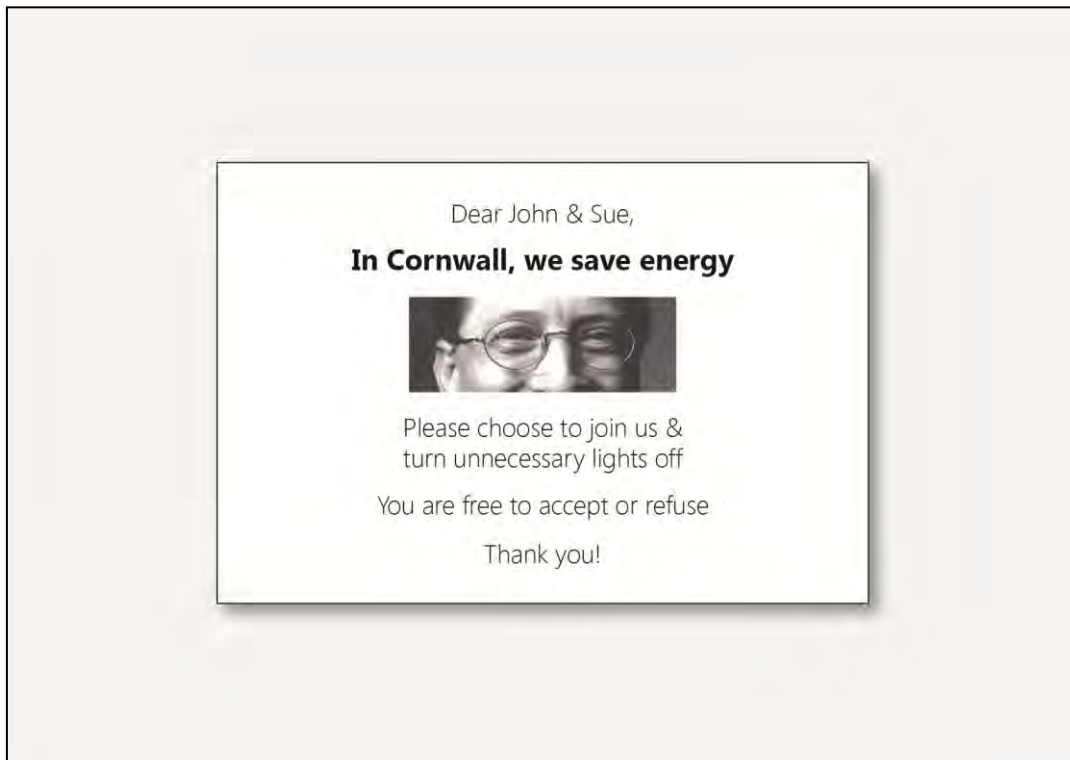
Figure 315. Following a centralised structure for the elements of the final (printable) message.

7.3.1   Webtool version 0.1
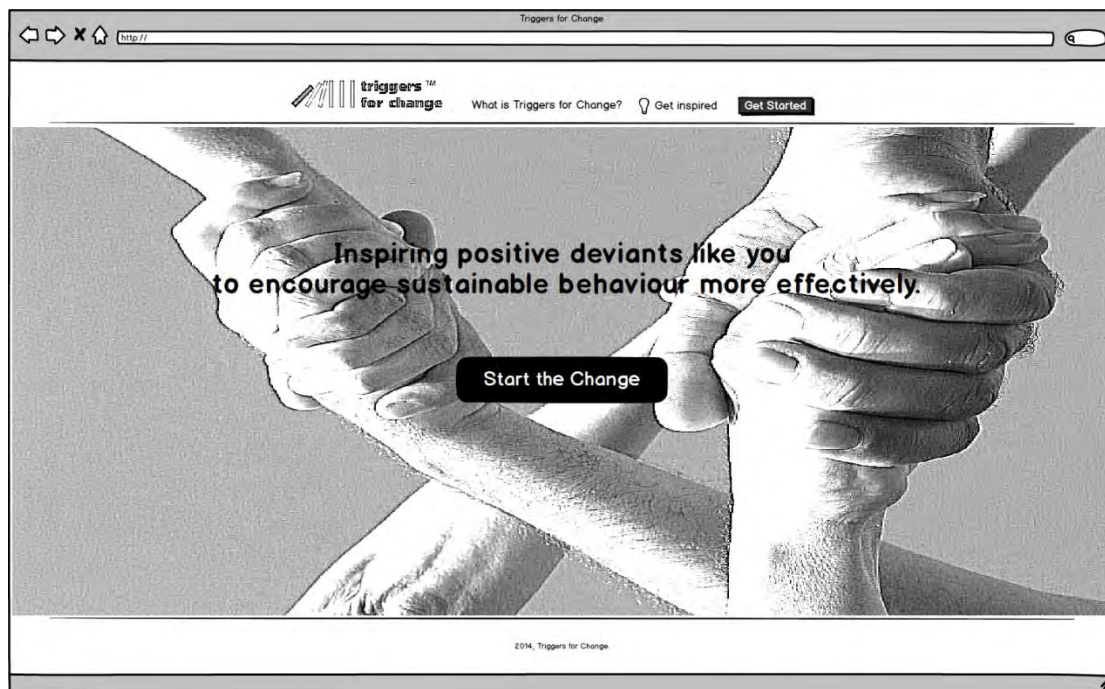
Figure 316. Developing the 'Homepage' of webtool version 0.1.
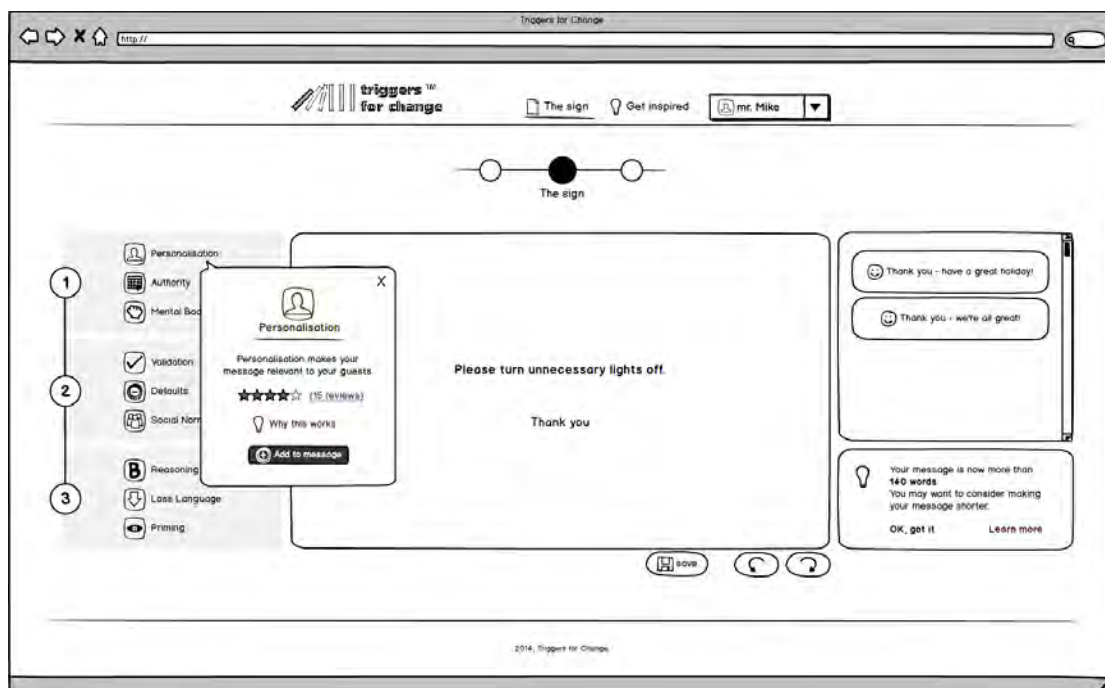
Figure 317. Developing the 'Message Canvas' of webtool version 0.1.
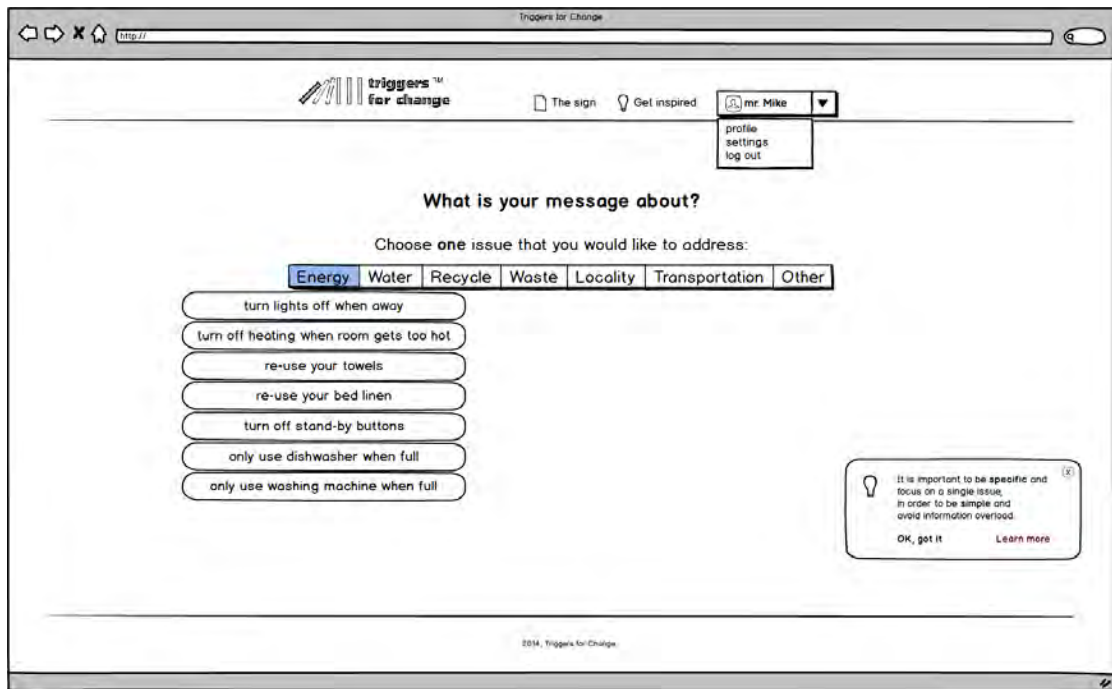
Figure 318. Developing the 'What is your message about?' section of webtool version 0.1.
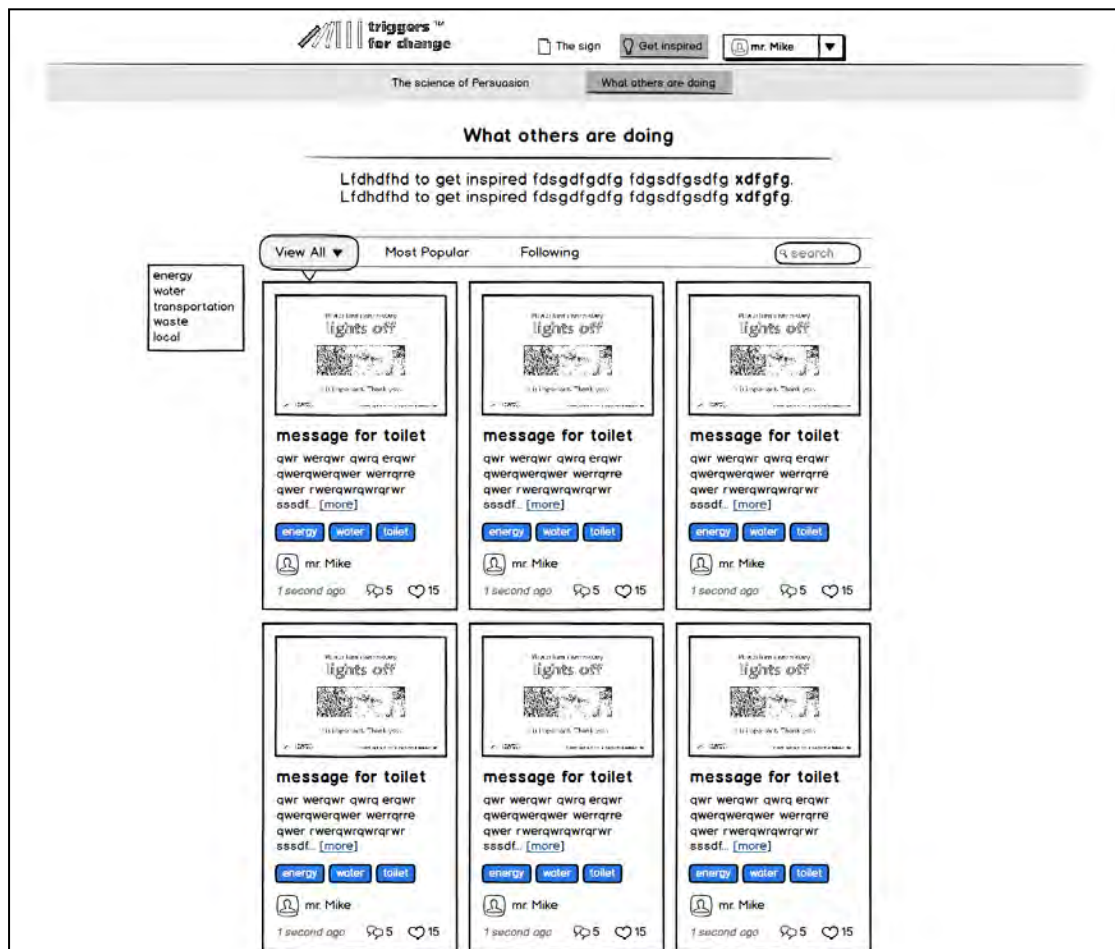
Figure 319. Developing the 'Get Inspired' section of webtool version 0.1.

Figure 320. Explaining 'Social Norms' version 0.1.
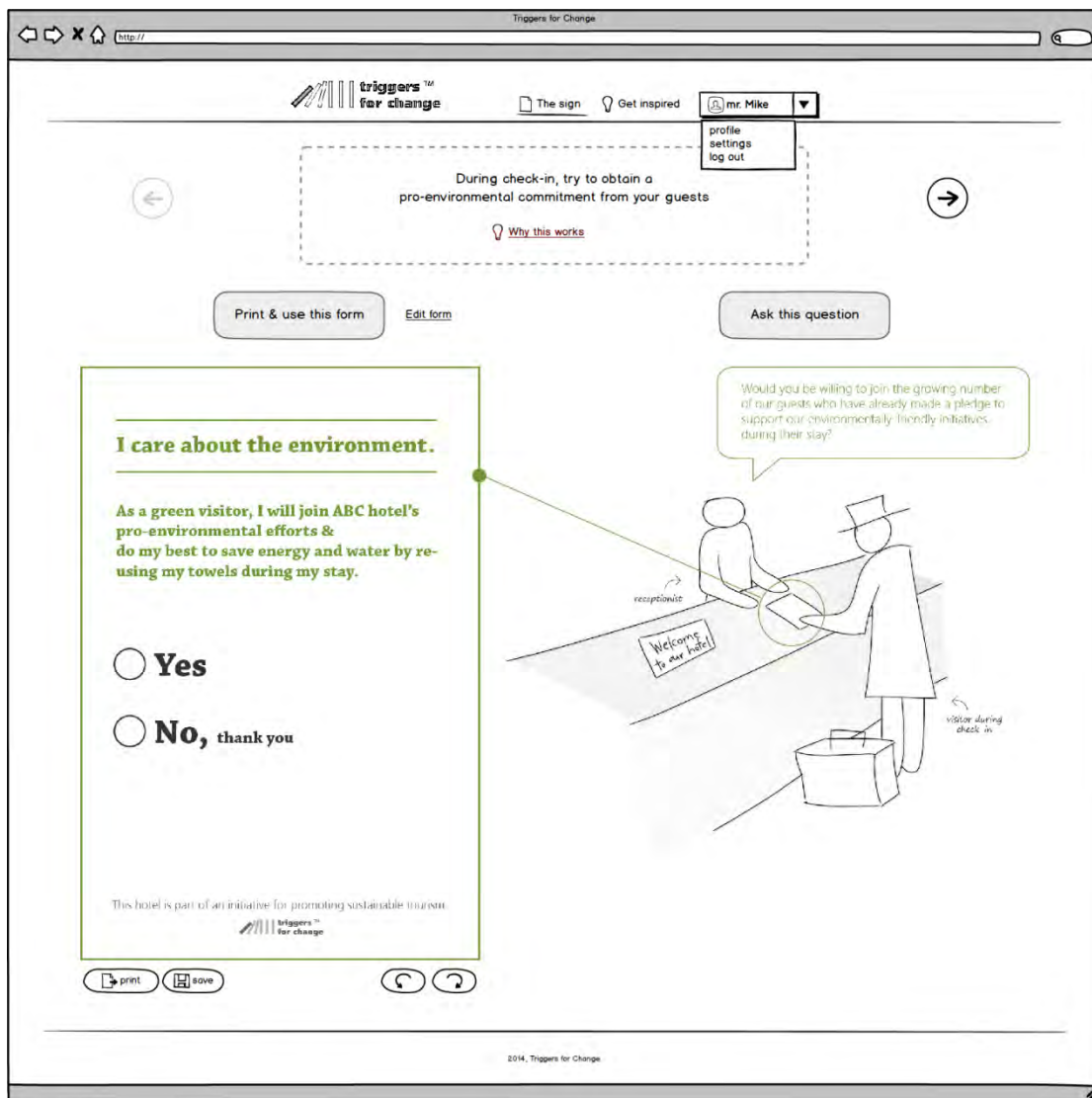
Figure 321. Developing the 'Check-in' section of webtool version 0.1.

7.3.2 Evaluation of Webtool version 0.1

The initial evaluation of the webtool version 0.1 is exploratory, open-ended and doesn't follow any specific structure (as the following cycles of evaluation do), because here the purpose of the evaluation was not so much about collecting specific, design suggestions but more about having an overall approval of the webtool as an idea (a proof of concept).

A brief Interactive Sketching Notation[118] of the webtool's user-interface was presented to:

- Oxford-based UX designer, Nikolaos Ovvadias (www.thinkable.co.uk)
- Manda Brookman, the director of this project's business partner, CoaST
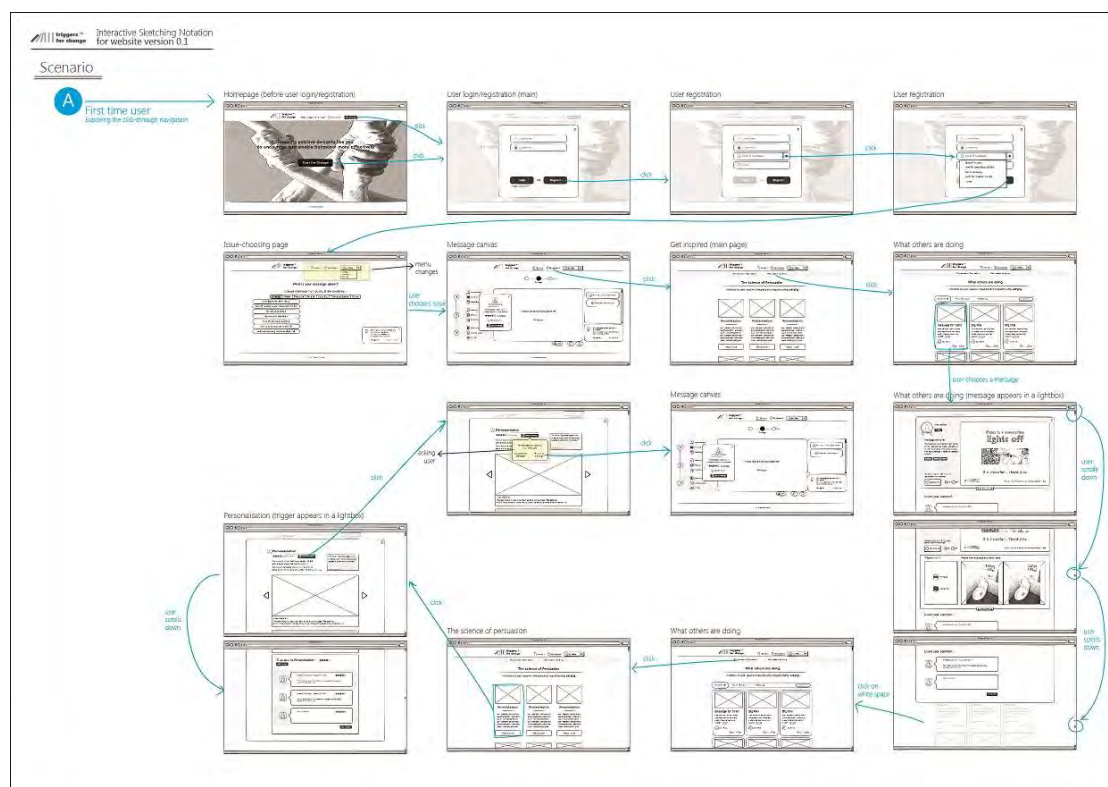
Figure 322. Exploring the user-journey: Interactive Sketching Notation used in the initial evaluation session.

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[118] A detailed explanation of Interactive Sketching Notation as an evaluation method is discussed in the following sections.

Figure 323. An initial evaluation/discussion on this project's proof of concept with an Oxford-based UX designer.

As we also discuss in Chapter 6, the feedback collected was positive and the idea of the webtool was well received by both evaluators. Notably, the director of CoaST commented that this webtool has potential for promoting environmental and economic benefits for CoaST's tourism-business network and, thus, it is an interesting and useful design response worth proceeding with.

7.3.3   Webtool version 0.2
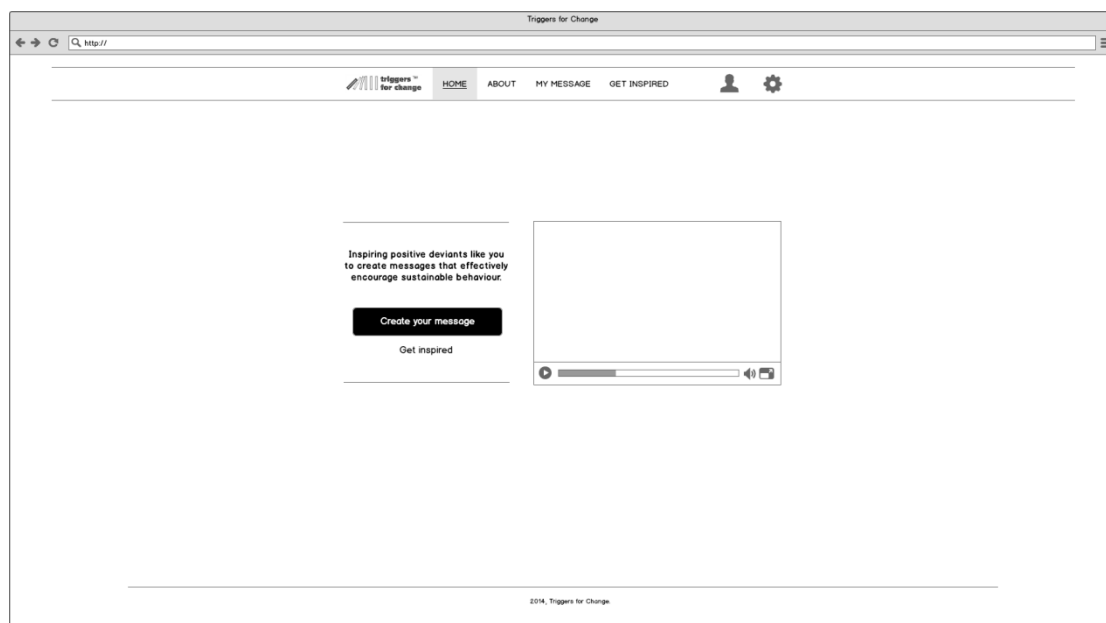
Figure 324. Developing the 'Homepage' of webtool version 0.2
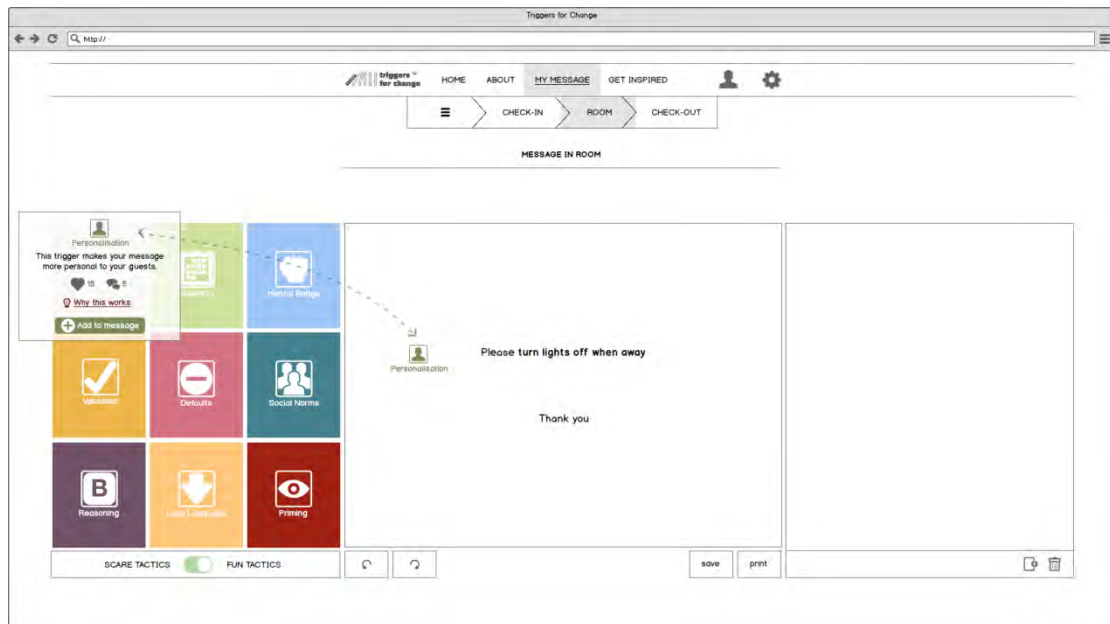
Figure 325. Developing the 'Message Canvas' of webtool version 0.2.
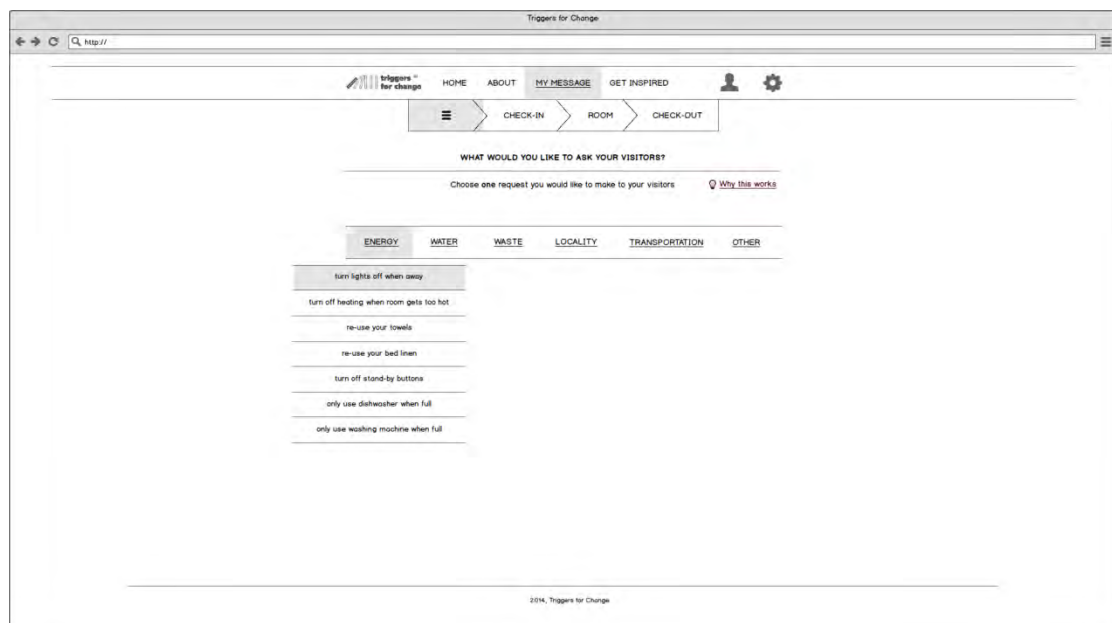
Figure 326. Developing the 'What would you like to ask your visitors?' section of webtool version 0.2.

Figure 327. Developing the 'Get Inspired' section of webtool version 0.2.
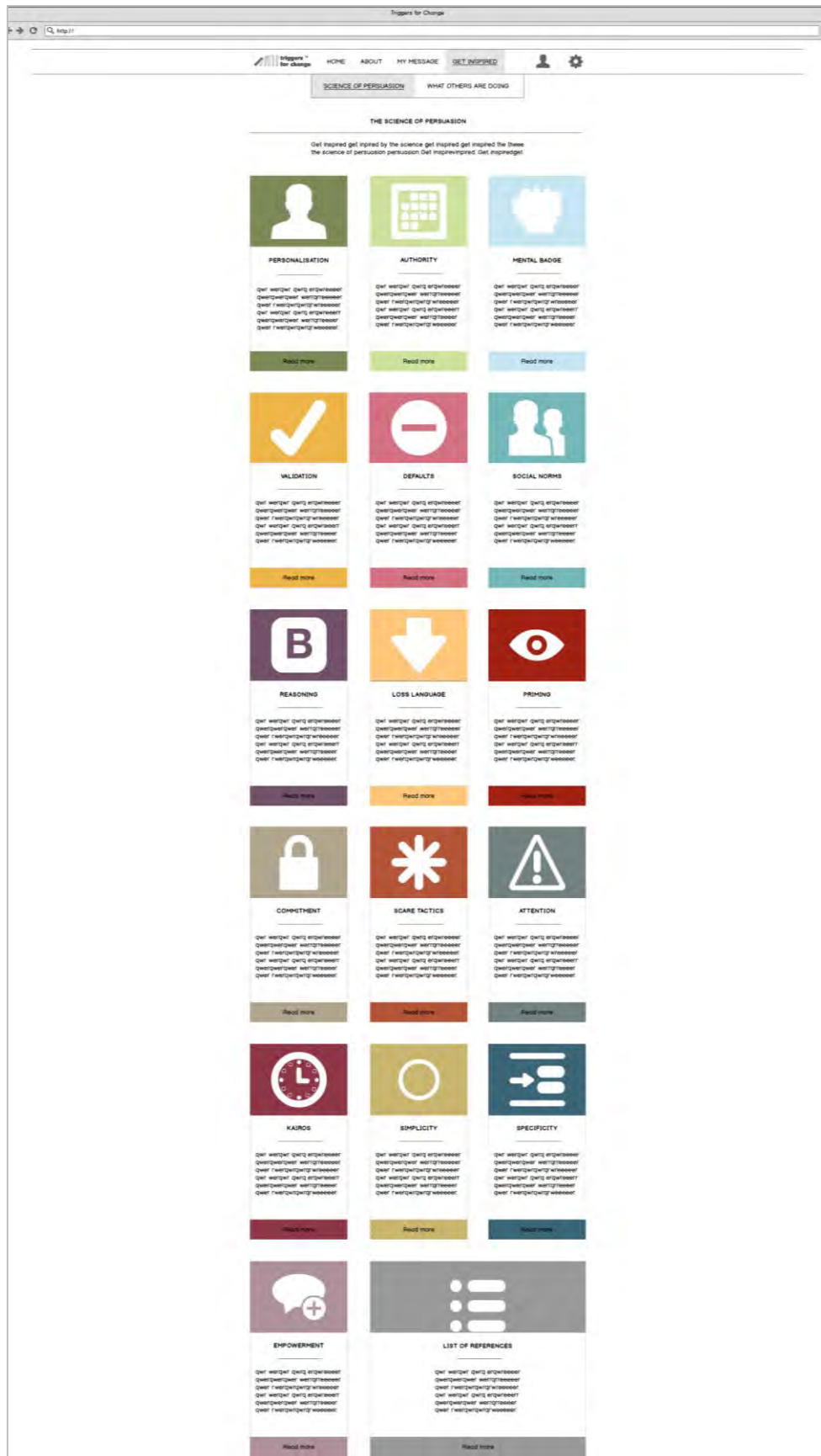
Figure 328. Developing the 'Get Inspired' section of webtool version 0.2.

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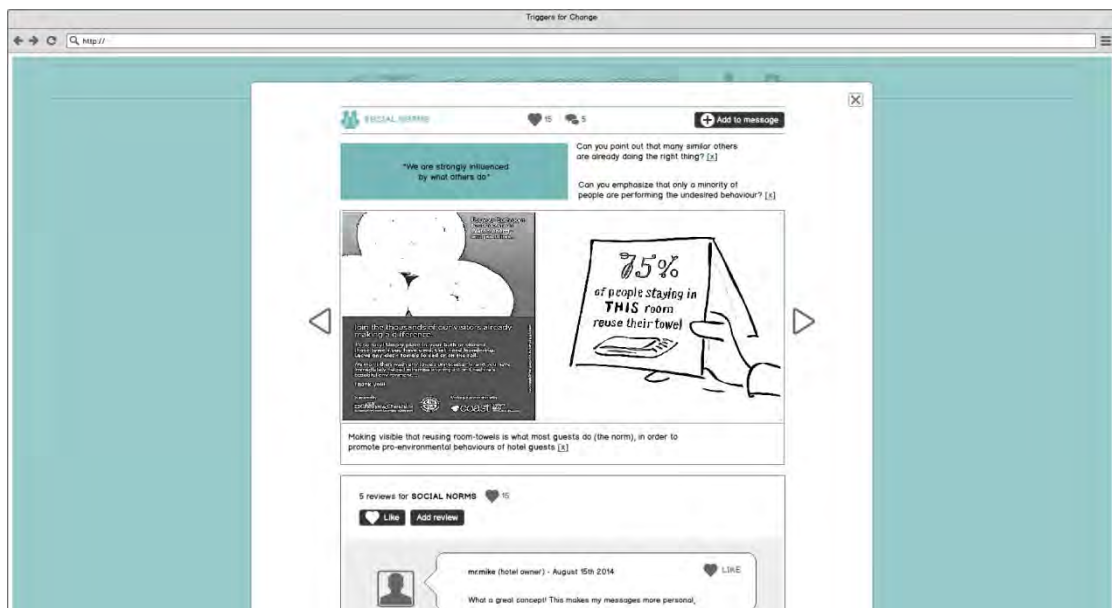
Figure 329. Explaining 'Social Norms' version 0.2.
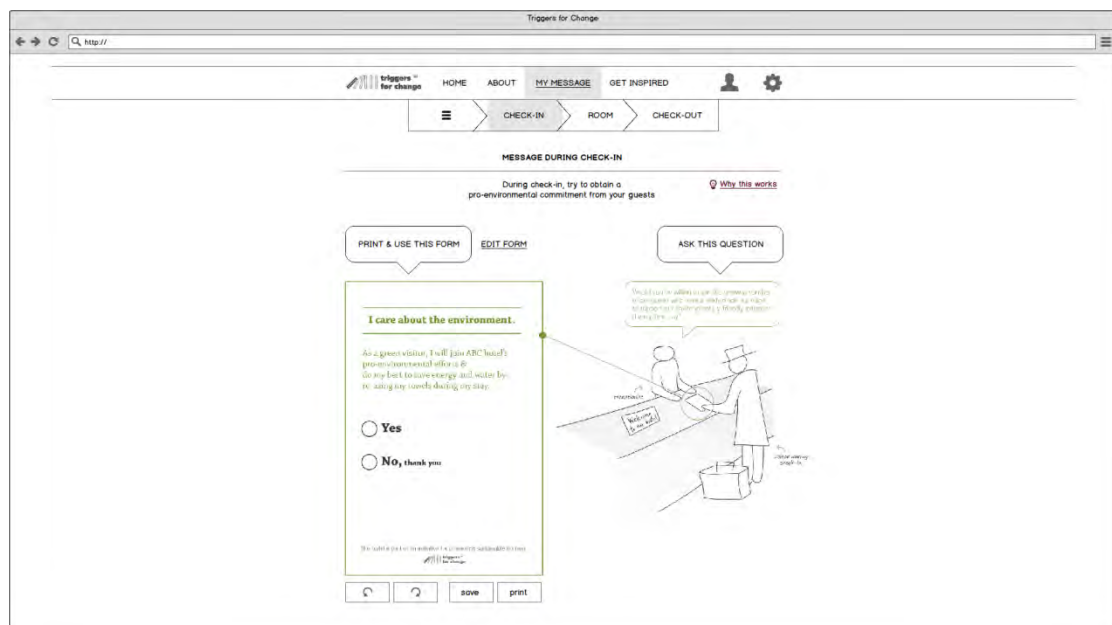
Figure 330. Developing the 'Check-in' section of webtool version 0.2.

7.3.4 Evaluation of Webtool version 0.2

For the evaluation of Triggers for Change Webtool version 0.2, the author designed and conducted:

- a Focus Group with Cornish Tourism businesses (members of CoaST's One Planet Tourism Network), at the Academy for Innovation & Research (AIR, Sandpit room), Falmouth University (see also Chapter 6).
- three Personal Interviews with User-Interface (UI) - User-Experience (UX) design experts, following the method of 'Heuristic Evaluation'.

7.3.4.1 Focus Group with Cornish Tourism Businesses (AIR Sandpit)

Following a User-Centred Design methodology, the author conducted a Focus Group in order to involve potential users of Triggers for Change webtool into the design process, as part of a participatory (co-design) process. The underlying philosophy of this evaluation session was to show Tourism-businesses the webtool as an idea, take them through the User-Interface design and considerate their feedback, emphasising on the WHAT (this is WHAT 'Triggers for Change' is), rather than emphasising on the HOW (this is HOW 'Triggers for Change' works; see following section).

Figure 331. Triggers for Change Webtool evaluation through Focus Group with Cornish Tourism Businesses (members of CoaST One Planet Tourism Network).

Taking into consideration the Tourism industry's comments and suggestions for improvement, informed the re-design process of Webtool version 0.3. Quotes can be found throughout the thesis text; pictures were taken and the whole session was sound-recorded; a transcription of this Focus Group sandpit session can be found in 'Appendix 9'. In short, the Webtool was well received as an innovative idea that has great potential to deliver benefits to the Cornish Tourism industry. However, some suggestions were made in terms of improving the interface design. Based on their feasibility, the following table consists of a selection of those suggestions:

A selection of suggestions related to the User-Interface design collected from the AIR Sandpit focus-group:
1. Suggestion: Make the interface colourful, and use engaging images (e.g., in the homepage).   • *"I would like to see some colourful depiction of what is all about [...] some picture of the environment as the reason for it all"* (Participant E)   • *"Some kind of really good engaging wallpaper it would be fantastic, yes."* (Participant F)
2. Suggestion: Give users the option to type in their own words, while working on the message-canvas.   • *"... because those are all really good prompts for us, but it would be nice just, I think, to have the ability to edit [the text, the wording options] a bit."* (Participant F)
3. Suggestion: Give users the editing option to place on the message (and/or on the check-in form / check-out badge) an image of their own.   • *"You could have an option where we could place a picture of ourself, if we liked."* (Participant E)
4. Suggestion: Give users the option to choose a humorous tone of language.   • *"... and don't forget: inject humour to it!"* (Participant F)

Figure 332. Feedback from AIR Sandpit Focus Group.

The invitation for this Focus Group evaluation session was sent to participants through an online YouTube video, titled: 'CoaSTies, an invitation for you.', in order to make the process more personalised. Additionally, after the Focus Group, participants (as potential users of Triggers for Change Webtool) were sent a small questionnaire in order for the author to estimate their level of expertise in terms of website and internet usage (see Figure below).

In turn, that informed the level of compliance with their comments and suggestions because, for example, following an average-user's comments and suggestions can potentially have more validity and viability than following a beginner-user's comments and suggestions for improvement.

Thank you & question

P.S. **QUESTIONNAIRE:** (Please leave only the answer that best describes you, and delete all other choices).

1. **Do you generally use computers in your daily life?**

YES   NO   yes

2. **How often do you use the internet?**

Never

Few times a month

Few times a week

Few times a day

All day long about 10 times a day

3. **What would you say your level of experience is in using the internet?**

No experience

Less than average

Average

More than average yes

High experience

4. **What would you say your ability in finding your way around in an unfamiliar website is?**

No ability

Less than average

Average yes

More than average

Figure 333. An example of the questionnaire that helped to determine the level of participants' expertise in using a website (Participant B).

7.3.4.2 Personal interviews with UX design experts (first Heuristic Evaluation)

Design is an iterative process: evaluating, testing, and re-designing a design outcome are important parts of a design process. Consequently, designing effective user interfaces and interactions is a challenging and ever learning process and, as the following Figures demonstrate, designing an optimum User-Interface is a complex process that even experienced software companies are ever-learning how to approach.
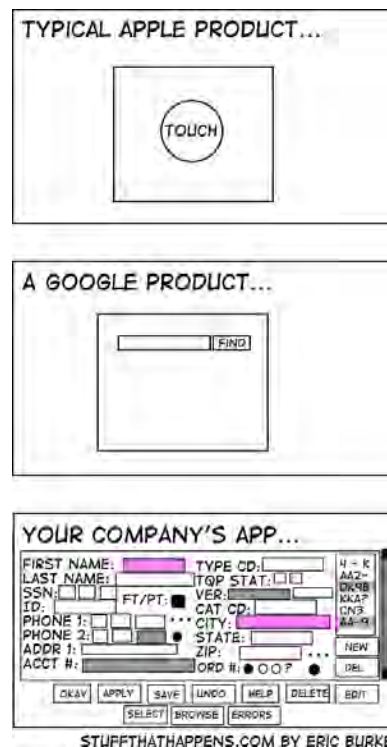
Figure 334. User-Interface design is a challenging process (image credit: Eric Burke).

On that note, one could argue that being a usability expert does not necessarily mean that one always designs error-free interfaces but most likely that one has the experience to bring usability problems to the minimum. For example, as Figure 338 illustrates, usability can be characterised as low quality when documentation is needed on how users can perform one of the most basic computing options.

Figure 335. Documentation on how to shut down the computer (image credit: Craft Design).
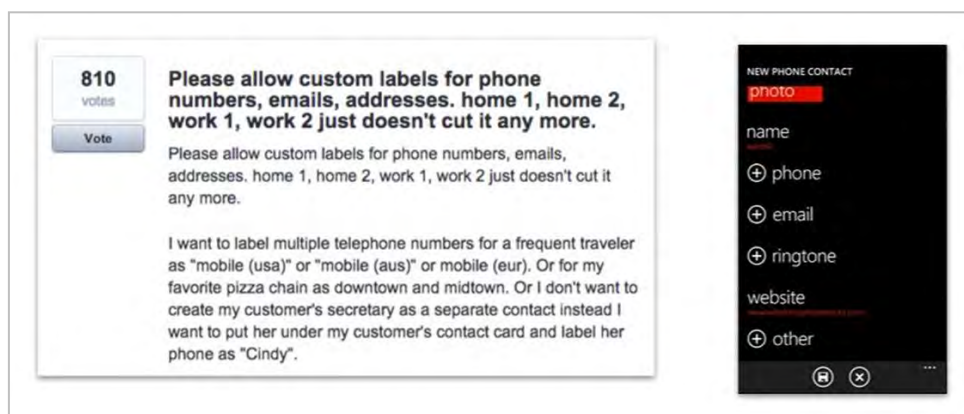
Figure 336. An advanced mobile user expressing their frustration in a web forum.

Human Computer Interaction (HCI) is "a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use and with the

study of major phenomena surrounding them" (Hewett et al., 1992). According to international HCI standards,[119] "usability" is defined as "the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use." (Usability Net, 2014). In short, "how easy user interfaces are to use"

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[119] See also ISO = International Organisation for Standardisation.

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(Nielsen Norman Group, 2014a). On that note, Nielsen outlines the five most important quality components for measuring usability:

Quality Components	Definition
Learnability	How easy is it for users to accomplish basic tasks the first time they encounter the design?
Efficiency	Once users have learned the design, how quickly can they perform tasks?
Memorability	When users return to the design after a period of not using it, how easily can they re-establish proficiency?
Errors	How many errors do users make, how severe are these errors, and how easily can they recover from the errors?
Satisfaction	How pleasant is it to use the design?

Table 337. Usability consists of 5 Quality Components (adapted from Nielsen Norman Group, 2014a

In this session, three Personal Interviews were conducted in order to involve skilled people in the design process. The underlying philosophy of this session is to take User-Experience (UX) experts through the User-Interface, emphasising on the HOW (this is HOW 'Triggers for Change' works). This was achieved by conducting a well-established research method called "Heuristic Evaluation" (Nielsen Norman Group, 2014b). Heuristic Evaluation is a popular practice in the User Experience (UX) industry because it is a resource-effective method that has low demands in terms of money, time and expertise. This means that Heuristic Evaluation is a usability-testing method that is not only confined to professionals with many resources available but it can also be conducted by any website developer. In Heuristic Evaluation, UX experts identify usability problems of a User-Interface based on specific usability principles (heuristics); the results from this method informed the re-design process of Webtool version 0.3. More specifically, in Nielsen's (Nielsen Norman Group, 2014b) words:

> "Heuristic evaluation (Nielsen and Molich, 1990; Nielsen, 1994) is a usability engineering method for finding the usability problems in a user interface design so that they can be attended to as part of an iterative design process. Heuristic evaluation involves having a small set of evaluators examine the interface and judge its compliance with recognised usability principles (the "heuristics"). [...] The output from using the heuristic evaluation method is a list of usability problems in the interface with references to those usability principles that were violated by the design in each

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case in the opinion of the evaluator. It is not sufficient for evaluators to simply say that they do not like something; they should explain why they do not like it with reference to the heuristics or to other usability results."

Notably, "it is necessary to involve multiple evaluators in any heuristic evaluation" because "one cannot just identify the best evaluator and rely solely on that person's findings." Nielsen recommends to "use three to five evaluators since one does not gain that much additional information by using larger numbers." (Nielsen Norman Group, 2014b)

Moreover, since this project's design proposal is not a online, fully-functional system but a static mock-up, heuristic evaluation is an appropriate method for evaluation because it is "suited for use early in the usability engineering lifecycle." (Nielsen Norman Group, 2014b). At a later stage of the usability engineering lifecycle, after the webtool has been developed by a coding expert, more extensive user testing, such as "User Activity Recording (eye fixations level)" or "Server Log analysis (& client side analytics)" methods can take place in order to examine the usability status of a fully-functional model. However, "As a discount usability engineering method, heuristic evaluation is not guaranteed to provide 'perfect' results or to find every last usability problem in an interface." This means that "it may not be possible to fix all usability problems in an interface element or to replace it with a new design, but it could still be possible to fix some of the problems if they are all known."

Based on the above, the specific design response was evaluated using Jacob Nielsen's Heuristic Evaluation usability method, having three UX design experts participating in the first Heuristic Evaluation of the Webtool:

- George Melabianakis (User Experience (UX) designer, www.backbonetechnology.com/)
- Fotis Mastichiadis (User Experience (UX) designer, www.polytopesystems.com/)
- Armagos Panagiotis (Freelance designer, www.behance.net/PanosArmagos/)

But can experts evaluate a user interface that remains at the level of a (complete) prototype, rather than an fully functional system? Yes. In that case, Nielsen argues that a successful approach would be to "supply the evaluators with a typical usage scenario, listing the various steps a user would take to perform a sample set of realistic tasks. Such a scenario should be constructed on the basis of a task analysis of the actual users and their work in order to be as representative as possible of the eventual use of the system." (Nielsen Norman Group, 2014b).

Therefore, Heuristic Evaluation for this project was characterised by using screenshots that illustrated a set of typical usage scenarios that was carried out by the evaluators attempting to complete specific tasks. A task consists of specific steps that a user has to go through in order to complete it. The author has outlined these steps in an Interactive Sketching Notation, that he has printed out and held before him, in order to check the evaluators

thinking. The evaluator interacts with the interface for the first time therefore they have no previous knowledge of the order of the steps required. Starting from the first step of the process (step number 1), evaluators where asked to complete x actual system tasks (most common tasks performed), also known as "typical usage scenarios", focused around the main functionality of the webtool:

- Scenario A: an unregistered user exploring the 'MY MESSAGE' section of the website; The evaluator was asked to examine the various function elements, in each of the 3 areas of the 'MY MESSAGE' section (CHECK-IN, ROOM, CHECK-OUT).
- Scenario B: a registered user creates a message, previews it, saves it, and prints it.
- Scenario C: a registered user exploring the 'GET INSPIRED' section, seeing other people's messages, and sharing their own message.

Each scenario consists of pre-defined steps that reach to a specific goal. Therefore, the webtool was considered usable if each step of the process was easily identified and it was executed in such a way that it successfully led to the next step until the completion of the task. Evaluators compared the webtool against a set of specific usability principles. The overall goal was to make sure that the User Interface (UI) enables the user to perform successfully the tasks that are essential to the webtool's core functionality. Notably, evaluators that were not aware of the ten heuristics were given a brief presentation of the heuristic evaluation technique, in order to be aware of examples of usability problems they should keep an eye for while examining the webtool.

More specifically, the author asked the evaluator to imagine that he is a potential interface user that wants to perform a specific action that I describe (e.g. 'Welcome to the home page of the webtool. Now, try to find where a message can be created', or 'You have created your message. Now, try to preview and print it'.) A user wants to perform an action. This action consists of certain steps. We are now at step number 1. Where would you go next? How do you think we could move on to step number 2? Which element of the interface will allow us to move on to the next step? And so on, until task was completed.

Taking the role of the "observer", the author sat beside the evaluators and asked them to examine the interface and verbalize their thoughts on how the webtool operates and what the various elements of the interface (e.g. button) might do. The author's role as the observer was twofold: first, he silently observed them going through the interface, purposefully being "reluctant to provide more help than absolutely necessary" in order to "discover the mistakes users make when using the interface." According to Nielsen, "the responsibility for analyzing the user interface is placed with the evaluator in a heuristic evaluation session [and] the evaluators should not be given help until they are clearly in trouble and have commented on the usability problem in question." For example, an evaluator might say: "I believe this button

will take me to the next page". In case their answer was correct, the author would reply "Correct", and let them move on to a different dialogue element. Now, taking into consideration that this project's webtool remains only at the level of a complete prototype and thus it could not be used as an online functional system, in case their answer was incorrect "it would be unreasonable to refuse to answer the evaluator's questions about the domain". So then my initial role as the silent observer changed and I would provide them with hints, or fully explain the specific element and assist them in using the interface "in order not to waste precious evaluation time struggling with the mechanics of the interface." Moreover, the author would note their comment down and thus, step-by-step, create a list of all the interface elements that needed to be re-designed in order to become user-intuitive. This method helped me improve the webtool by working towards an interface where the user could easily understand what the different elements stand for and quickly find their way around to complete their task.

"During the evaluation session, the evaluator goes through the interface several times and inspects the various dialogue elements and compares them with a list of recognised usability principles (the heuristics). These heuristics are general rules that seem to describe common properties of usable interfaces." This means that, UI evaluators examine and compare the interface design against specific usability guidelines – the heuristics, while attempting to accomplish an actual usage scenario. This means that this research method has to be performed by people that are aware of usability guidelines – usability experts, in order for them to be able to justify every usability problem identified according to a specific heuristic.[120] For example, a typical evaluation dialogue between the observer and the evaluator:

- Usability problem: exit button is not in every page / too many choices on this page
- Recommendation: Place exit button in every page / reduce choices
- Heuristic: This recommendation of mine is based on the usability guideline of 'CONSISTENCY' / 'AESTHETIC & MINIMALISTIC DESIGN', where... (WHY is this a usability problem? Because it violates certain usability heuristics)

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[120] In short, a list of identified usability problems is a set of problems and suggestions that need to be addressed in order to improve the usability of Triggers for Change webtool. The main form of the heuristic evaluation dialogue is:

- 'Why is that an issue?'

- 'Because it violates the heuristic principle of…'

n.	Usability Heuristic	Definition
#1	Visibility of system status	The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.
#2	Match between system and the real world	The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.
#3	User control and freedom	Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.
#4	Consistency and standards	Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.
#5	Error prevention	Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.
#6	Recognition rather than recall	Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.
#7	Flexibility and efficiency of use	Accelerators – unseen by the novice user – may often speed up the interaction for the expert user such that the system can cater to both in experienced and experienced users. Allow users to tailor frequent actions.
#8	Aesthetic and minimalist design	Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.
#9	Help users recognize, diagnose, and recover from errors	Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.
#10	Help and documentation	Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation.

Table 338. Nielsen's Ten Usability Heuristics for User Interfaces (adapted from Nielsen Norman Group, 2014d).

Furthermore, the evaluation process also consists of rating the usability problems identified according to their "severity" (Nielsen Norman Group, 2014c) and "ease of fixing" (Olson, 2004. In: Rebelo et al, 2014). Severity is measured according to the impact of a usability issue (see Table below), whereas the difficulty of fixing an issue defines the issue's "ease of fixing" ranking (see Table below). Both, severity, and ease of fixing ratings can strengthen the heuristic evaluation process by helping the development team to have a clearer understanding of the usability problems, and set design priorities that need to be addressed for improving the webtool.

Severity Ratings	
Rating	Definition
0	I don't agree that this is a usability problem at all
1	Cosmetic problem only: need not be fixed unless extra time is available on project
2	Minor usability problem: fixing this should be given low priority
3	Major usability problem: important to fix, so should be given high priority
4	Usability catastrophe: imperative to fix this before product can be released

Table 339. Nielsen's Severity Ratings for Usability Heuristics: a scale for rating the severity of identified usability issues (adapted from Nielsen Norman Group, 2014c).

Ease of Fixing ratings	
Rating	Definition
0	Problem would be extremely easy to fix. Could be completed by one team member before next release.
1	Problem would be easy to fix. Involves specific interface elements and solution is clear.
2	Problem would require some effort to fix. Involves multiple aspects of the interface or would require team of developers to implement changes before next release or solution is not clear
3	Usability problem would be difficult to fix. Requires concentrated development effort to finish before next release, involves multiple aspects of interface. Solution may not be immediately obvious or may be disputed.

Table 340. Olson's Ease of Fixing Ratings (adapted from Olson, 2004. In: Rebelo et al, 2014).

Usability Heuristic: Nielsen's 10 usability principles	Evaluator's thoughts: The UI should provide a positive answer to the following evaluator's questions:	User's thoughts: The UI should enable the user to find an enlighting answer to their following thoughts:
#1 Visibility of System Status	Does the interface "keep users informed about what is going on"? (Feedback)	*Where am I now?* *Where can I go next?*
#2 Match between System and the Real World	Does the interface "speak the user's language"? (Metaphor)	*What are you talking about?*
#3 User Control and Freedom	Does the interface provide control and freedom elements? (Navigation)	*Oops, I want out of here!*
#4 Consistency and Standards	Does the interface "follow platform conventions"? (Consistency/Expectations)	*This seems familiar; I expect to know this.*
#5 Error Prevention	Does the interface "prevent a problem from occurring in the first place"? (Prevention)	*I am glad I didn't click OK on that.*
#6 Recognition rather than Recall	Does the interface "minimise the user's memory load"? (Memory)	*I recognise where I am; I understand what I need to do.*
#7 Flexibility and Efficiency of use	Does the interface "cater to both inexperienced and experienced users"? (Efficiency)	*I am an advanced/novice user; I want more/less options.*
#8 Aesthetic and Minimalist Design	Does the interface avoid containing "information which is irrelevant or rarely needed"? (Design)	*Is this feature really needed here? I don't want to see this useless information every time I visit this page.*
#9 Help users Recognise, Diagnose, and Recover from Errors	Does the interface express error messages "in plain language (no codes)"? (Recovery)	*What went wrong? How can I fix it?*
#10 Help and Documentation	Does the interface "provide help and documentation"? (Help)	*I don't get it, I need some explanation.*

Table 341. Enriching Nielsen's Usability Heuristics by adding potential thoughts of users and evaluators (adapted from Nielsen Norman Group, 2014d).

7.3.4.3 Interactive Sketching Notation

Interactive Sketching Notation (ISN) is "an emerging visual language which affords the representation of interface states and event-based user actions" […] enabling "designers to tell more powerful stories of interaction." (Linowski Interaction Design, 2014a). It can be used as a discussion material between designers, developers, and potential users to help generate ideas and recommendations for improving the User Interface.

Through a designer's point-of-view, putting the UI in the flow of an ISN helped me to have a better understanding of the story I was trying to tell the user, because it was a way of seeing the interaction, not just as a UI but most importantly as a storyboard (Linowski Interaction Design, 2014a).

The Interactive Sketching Notations (ISN) for 3 Typical Usage Scenarios (TUS) used in the Heuristic Evaluation (HE) session of Webtool version 0.2, follow below:
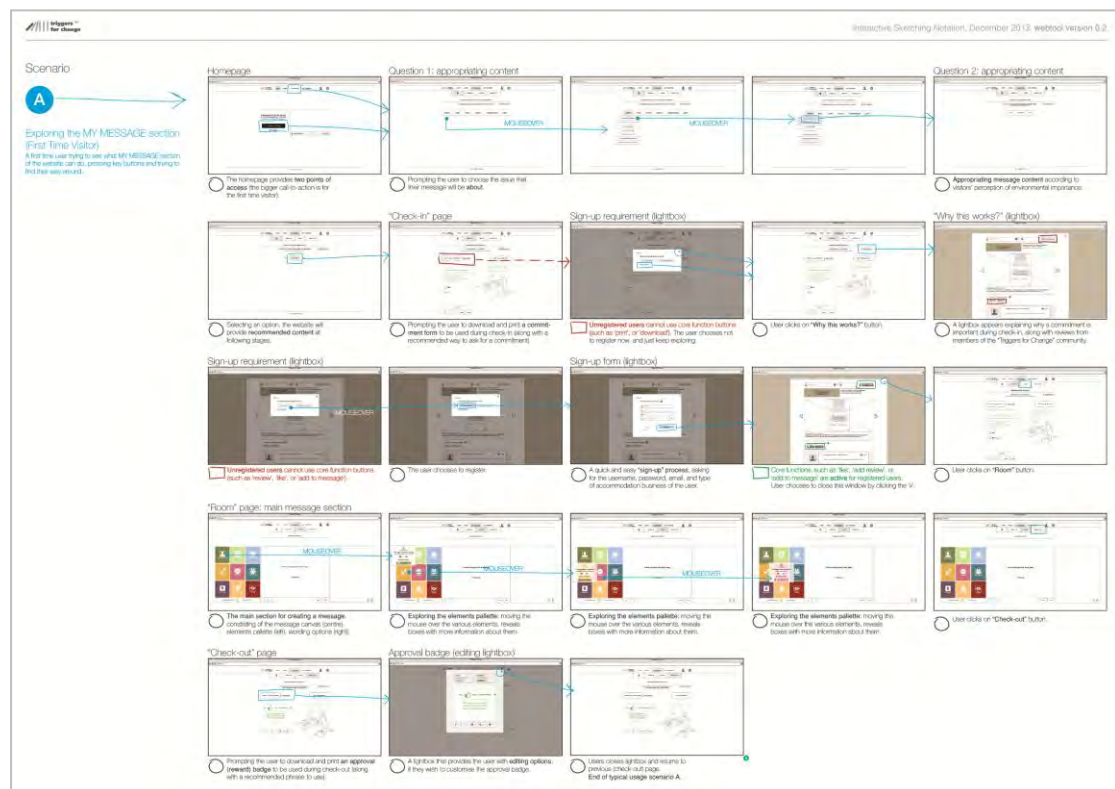
Figure 342. Interactive Sketching Notation (typical usage scenario A) for webtool version 0.2.

Figure 343. Interactive Sketching Notation (typical usage scenario B) for webtool version 0.2.

Figure 344. Interactive Sketching Notation (typical usage scenario C) for webtool version 0.2.
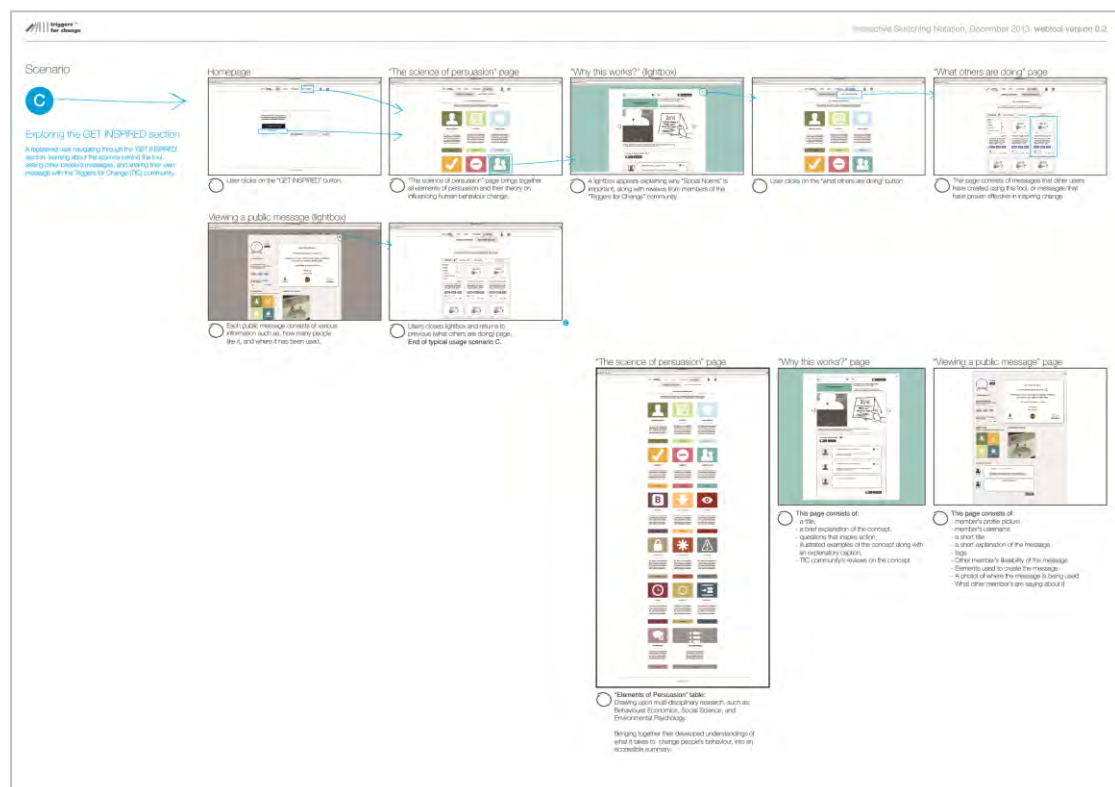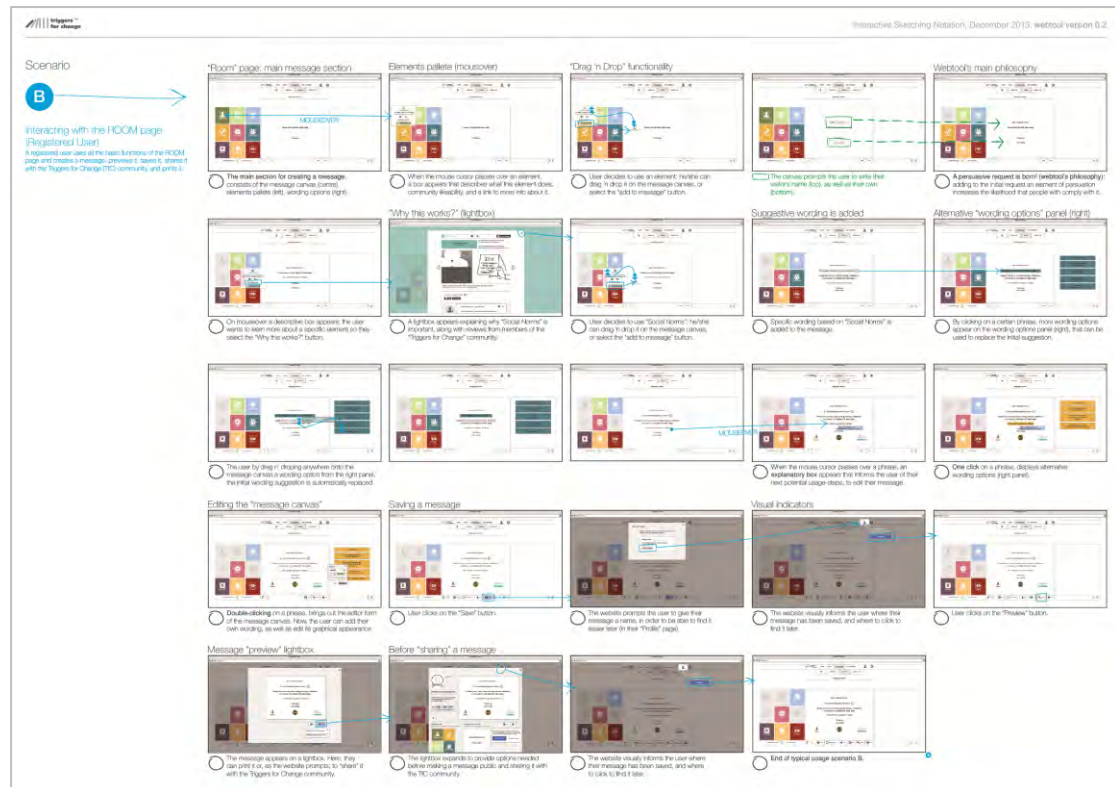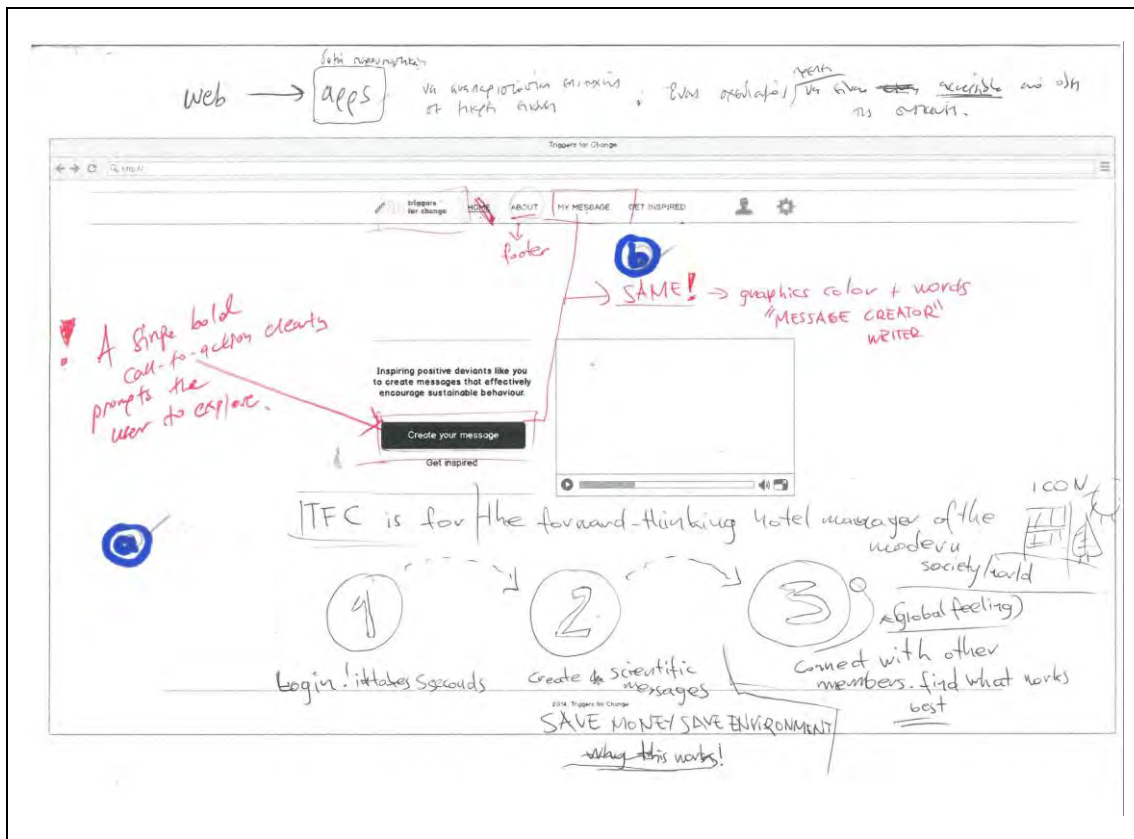
A)

- **Issue:** The current state of the home-page does not provide enough information on what the website is all about and more importantly how it can be used.

- **Heuristic principles:** Visibility of system status (#1), Help and documentation (#10)

- **Recommendation:** Include additional information (words, graphics, pictures) in the home-page in order to quickly communicate to the user what 'Triggers for Change' is all about and how they can engage with it.

- **Severity:** Major usability problem (3)

- **Ease of fixing:** Solution is clear (1)

B)

- **Issue:** The home-page displays two different buttons ("My Message", and "Create your Message") that perform the same function.

- **Heuristic principle:** Consistency and Standards (#4)

- **Recommendation:** Call-to-actions (buttons) that do the same should look the same, in terms of graphics, images and words.

- **Severity:** Minor usability problem (2)

- **Ease of fixing:** Extremely easy to fix (0)

C)

- **Issue:** The standard call-to-action "Print" looks unfamiliar due to a lack of conventional icons/symbols next to it.
- **Heuristic principle:** Consistency and Standards (#4)
- **Recommendation:** Use typical icons/symbols next to conventional call-to-actions in order to verify user's expectations and make the interface look familiar. In this case, the call-to-action "Print" should have the print icon next to it.
- **Severity:** Minor usability problem (2)
- **Ease of fixing:** Extremely easy to fix (0)

D)

- **Issue:** The current alignment of information makes it difficult to understand what the user needs to do. The structure of this page does not make very clear what actions are expected from the user.
- **Heuristic principles:** Flexibility and efficiency of use (#7), Recognition rather than recall (#6).
- **Recommendation:** Align the information in such a way that clarifies the steps that need to be taken. In this case, make clear to the user that using the "Form" is a linear process involving (at least) two steps.
- **Severity:** Major usability problem (3)
- **Ease of fixing:** Solution is not clear (2)

E)

- **Issue:** It is difficult to understand which action is a priority, and thus where the user places their attention.
- **Heuristic principles:** Visibility of system status (#1)
- **Recommendation:** The interface should follow a visual hierarchy of information in order to clearly communicate to the user what is more or less important. In this case, give visual weight to the "Use this form" as it is the most important part, with everything else following it.
- **Severity:** Minor usability problem (2)
- **Ease of fixing:** Solution is clear (1)

F)

- **Issue:** The font size of the central message is quite small and thus it does not visually reflect the importance of it as an essential part of the page.
- **Heuristic principles:** Visibility of system status (#1)
- **Recommendation:** The interface should follow a visual hierarchy of information in order to clearly communicate to the user what is more or less important. In this case, give visual weight to the central message (e.g. "Message during check-in"), as an important element of this page.
- **Severity:** Minor usability problem (2)
- **Ease of fixing:** Solution is clear (1)

G)

- **Issue:** The lack of distinguishable control elements (in this case, a set of back/forward arrow buttons) that appear on every page, makes it difficult for the user to feel in control of the system.
- **Heuristic principles:** User control and Freedom (#3)
- **Recommendation:** Provide a separate and distinguishable set of arrow (back/forward) buttons in order to allow the users to feel in control of the system at any stage of the process.
- **Severity:** Major usability problem (3)
- **Ease of fixing:** Extremely easy to fix (0)
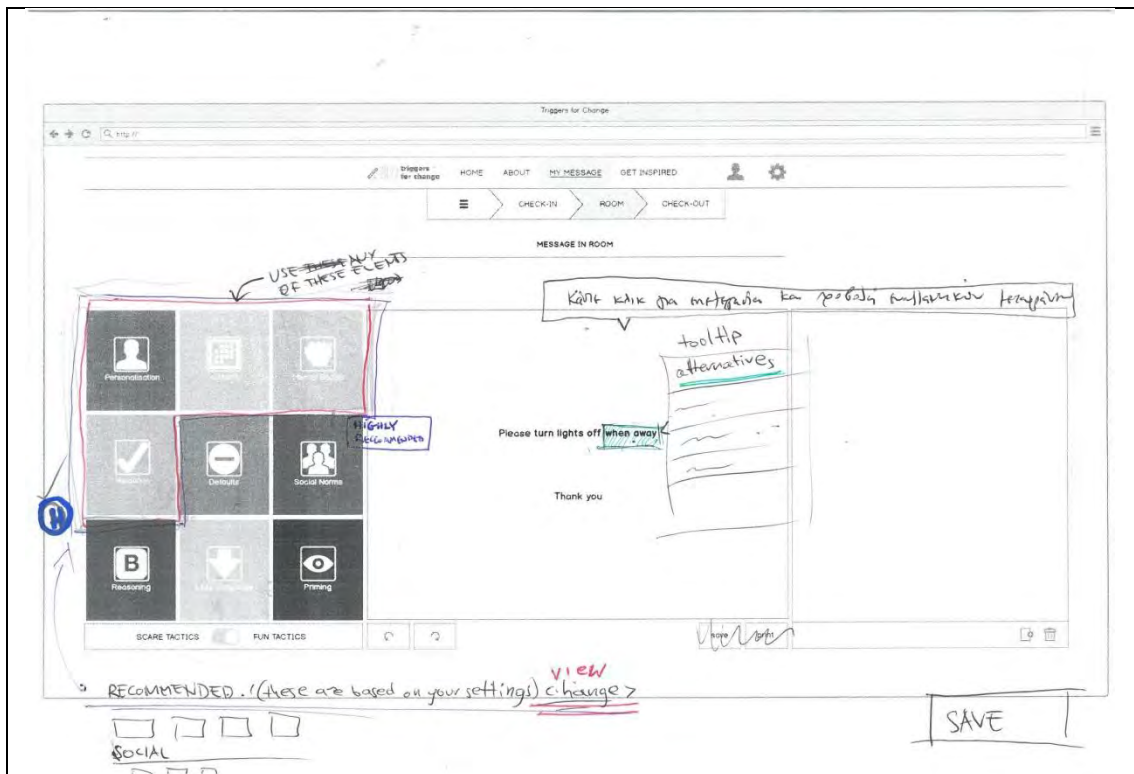
H)

- **Issue:** Too many choices may overwhelm and confuse the user.

- **Heuristic principles:** Flexibility and Efficiency of use (#7)

- **Recommendation:** Provide a few recommended options (appropriate to user's needs) in order to make information more accessible.

- **Severity:** Major usability problem (3)

- **Ease of fixing:** Solution is not clear (2)

I)

- **Issue:** What does this element do? A lack of explanations in several parts of the interface makes the system unclear and difficult to use.
- **Heuristic principles:** Recognition rather than recall (#6)
- **Recommendation:** Include (mouse-over) explanations in order to make clear to the user every interface element.
- **Severity:** Minor usability problem (2)
- **Ease of fixing:** Solution is clear (1)

J)

- **Issue:** In this page ("My Message > Room"), there is a lack of information that indicates the steps need to be taken in order to create a message.
- **Heuristic principles:** Visibility of system status (1), Recognition rather than recall (6).

- **Recommendation:** Include usage-information in order to make clear to the user all the steps that need to be taken in order to create a message.
- **Severity:** Major usability problem (3)
- **Ease of fixing:** Solution is not clear (2)

K)

- **Issue:** The interface does not help the user understand where the important area is, and thus where to place their attention in order to take the next step needed.
- **Heuristic principles:** Visibility of system status (#1), Recognition rather than recall (#6).
- **Recommendation:** Give visual weight to highlight the important areas and place user's attention to the next sequential step that needs to be taken in order to create their message.
- **Severity:** Major usability problem (3)
- **Ease of fixing:** Solution is not clear (2)

L)

- **Issue:** The second menu bar that appears after "My Message" is selected, probes a progress bar when it is not. In other words, the options on the menu look linearly interdependent whereas in reality on option is not dependent to (the completion of) another.
- **Heuristic principles:** Consistency and Standards (#4).
- **Recommendation:** Actions elicited in the "My Message" menu bar should not probe a linear interdependent process. Avoid the use of arrows.
- **Severity:** Major usability problem (3)
- **Ease of fixing:** Extremely easy to fix (0)
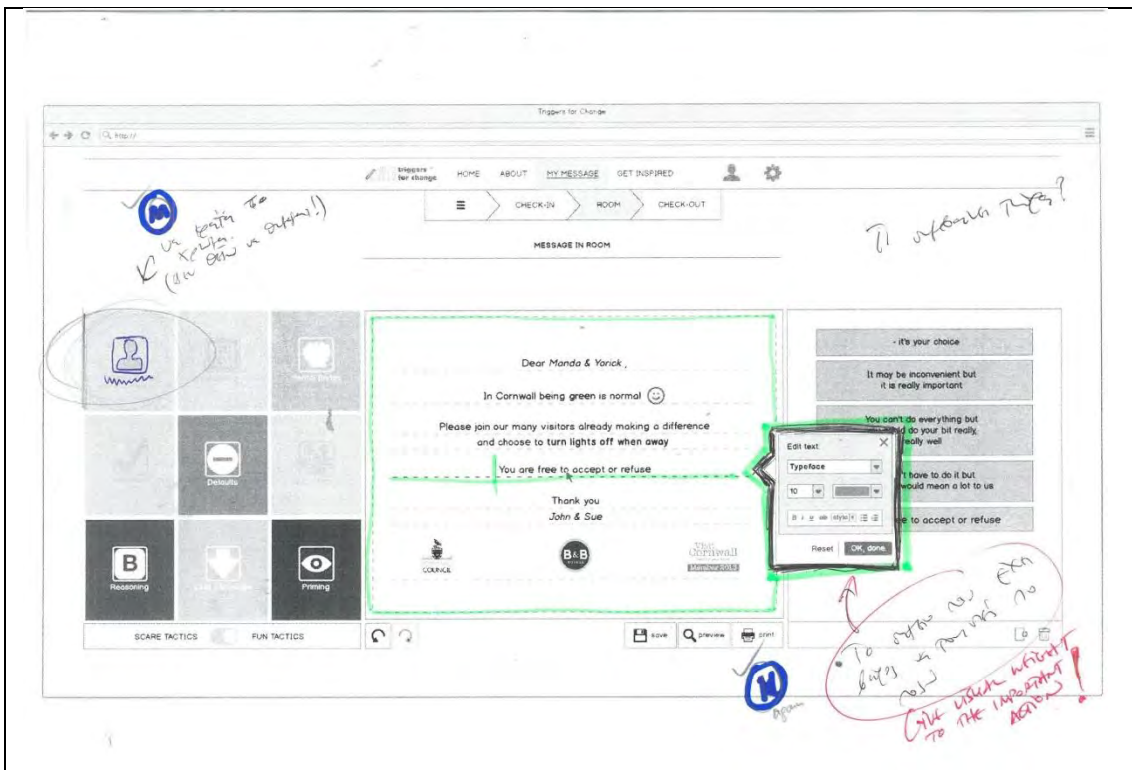
M)

- **Issue:** Changing the colour of a selected element in a completely greyscale tone makes it hard to use the interface effectively because it forces the user to have to remember which colour characterises each element.
- **Heuristic principles:** Recognition rather than recall (#6)
- **Recommendation:** Selected elements to retain a clue of their characterising colour, so the user doesn't have to remember parts of previous dialogues in order to create their message.
- **Severity:** Major usability problem (3)
- **Ease of fixing:** Solution is clear (1)

N)

- **Issue:** The interface does not help the user understand where the important area is, and thus where to place their attention in order to take the next step needed.
- **Heuristic principles:** Visibility of system status (#1), Recognition rather than recall (#6).
- **Recommendation:** Give visual weight to highlight the important areas and place user's attention to the next sequential step that needs to be taken in order to create their message.
- **Severity:** Major usability problem (3)
- **Ease of fixing:** Solution is not clear (2)
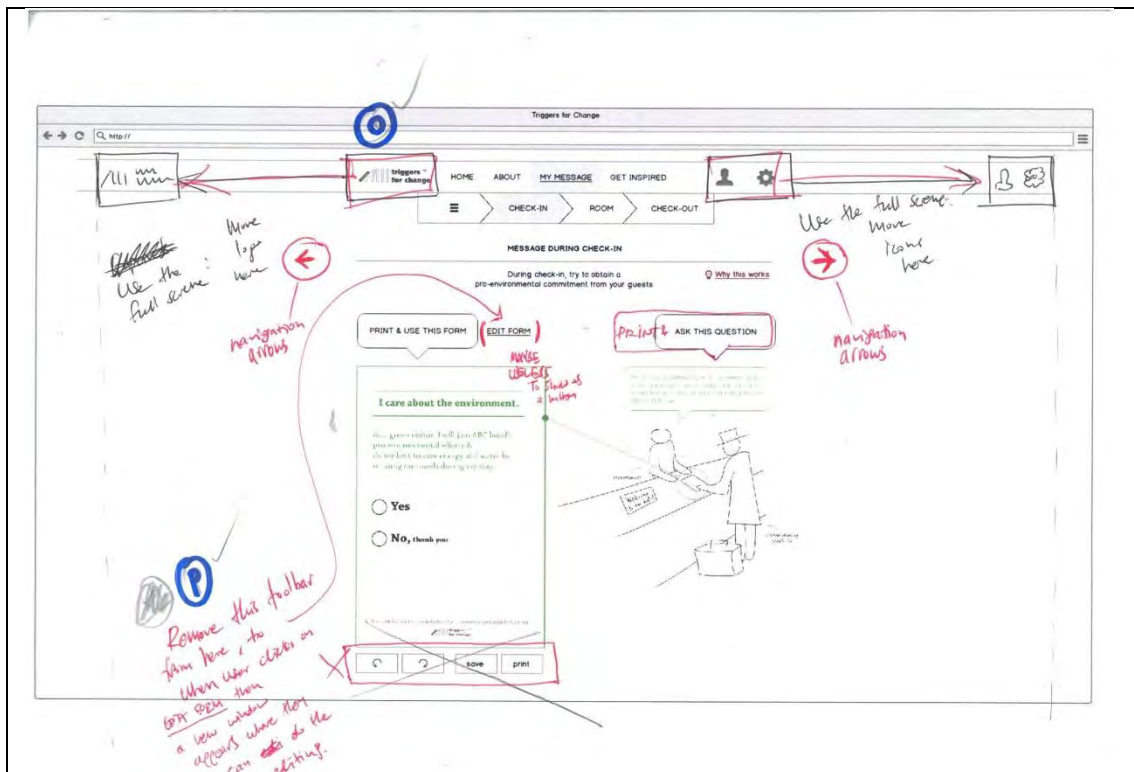
O)

- **Issue:** As a convention, it is typically expected to see the "Login" button at the top-right and the "Logo" at the top-left of a website.
- **Heuristic principles:** Consistency and Standards (#4)
- **Recommendation:** "Follow platform conventions" and use the full length of the page, placing the "Triggers for Change logo" at the top-left and the "Profile/Login" and "Settings" icons at the top-right of the page.
- **Severity:** Cosmetic usability problem (0)
- **Ease of fixing:** Extremely easy to fix (0)

P)

- **Issue:** Not everyone who visits this page ("My Message > Check-in") wishes to see form-editing options every time they visit. The toolbar feature is not necessary for every user to see, thus it is a feature that is not needed here because it overloads the page with "useless" information.
- **Heuristic principles:** Aesthetic and Minimalistic design (#8), User control and Freedom (#3).
- **Recommendation:** Remove the toolbar feature underneath the commitment form and place it within the option "Edit Form". This will make the page visually lighter and at the same time provide the user with the option to choose if they want to access more editing information or not.
- **Severity:** Major usability problem (3)

- **Ease of fixing:** Extremely easy to fix (0)
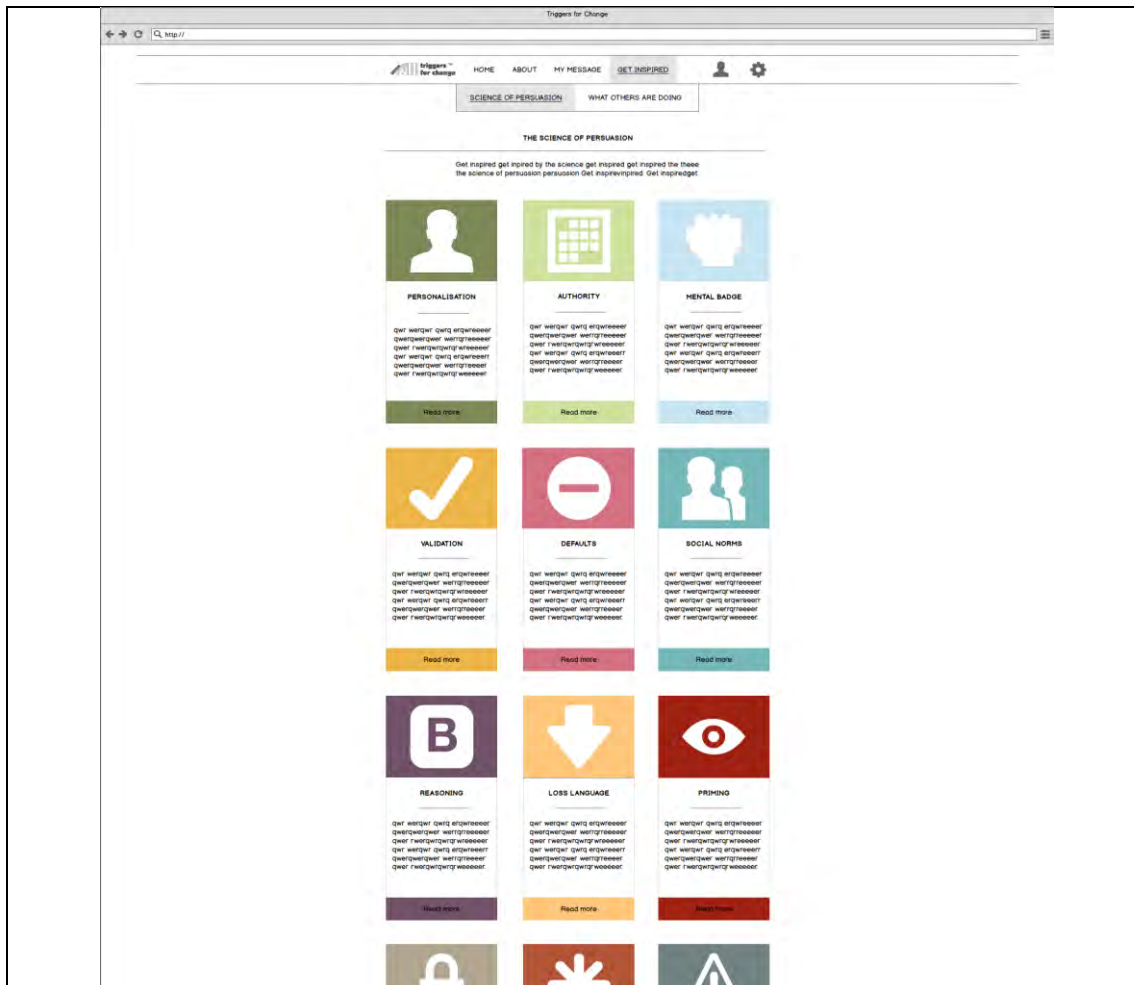
Q)

- **Issue:** At several points the interface does not speak the user's language. Users might find the words used complex and/or too formal, and thus may not be able to use the interface at its full potential (complex information and/or dry text makes users switch off).

- **Heuristic principles:** Match between the System and the Real world (#2)

- **Recommendation:** Simplify the words you use through the interface until the systems speaks the users' language and engages with them in a real world dialogue (natural language).

- **Severity:** Major usability problem (3)

- **Ease of fixing:** Difficult to fix (3)

The following Total Occurrences Report (TOR) informs the next research steps because it prioritises the usability problems that need to be addressed.
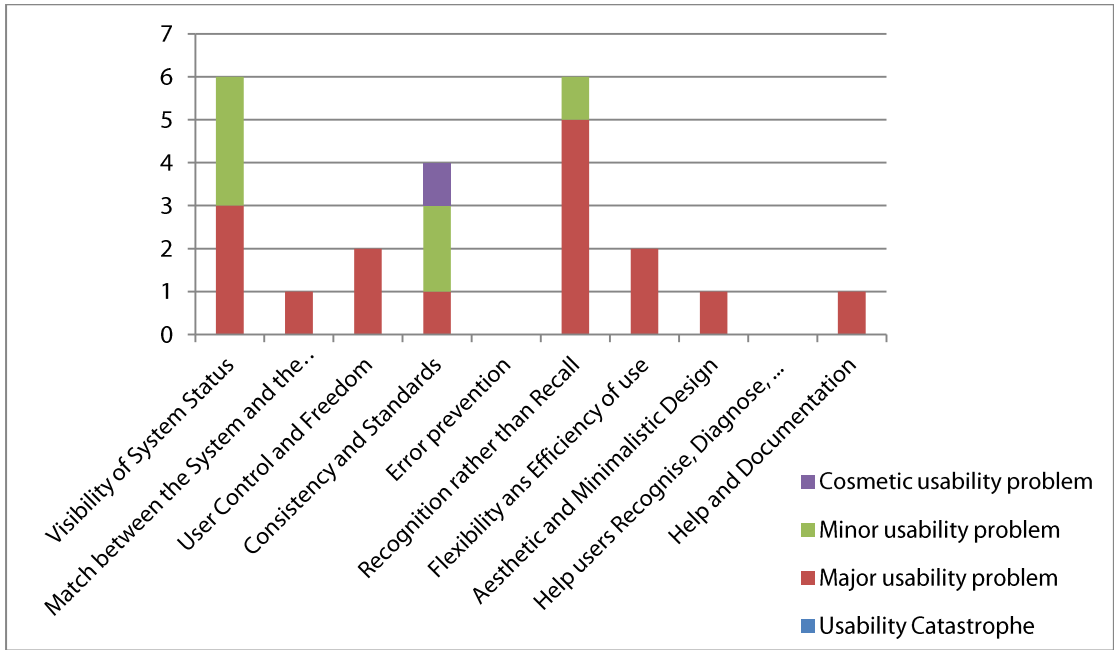
Figure 345. Total Occurrences Report.

Below, a couple of additional suggestions and recommendations for improving the usability of the webtool are provided, based on the feedback from evaluation sessions.

1. The "message canvas" page ("My Message > Room") is a part of the webtool that demands a high cognitive load from its users. Inspired by Apple's iA Writer app (see Figure 349 below), consider re-designing the interface so it allows the user to focus on the message they are creating by hiding all other surrounding elements/information while they do that (the user could access again all hidden elements by moving their mouse cursor to the edges of their screen). Therefore, the attention of the user to their message-crafting is respected and extraneous information will not be a distraction.
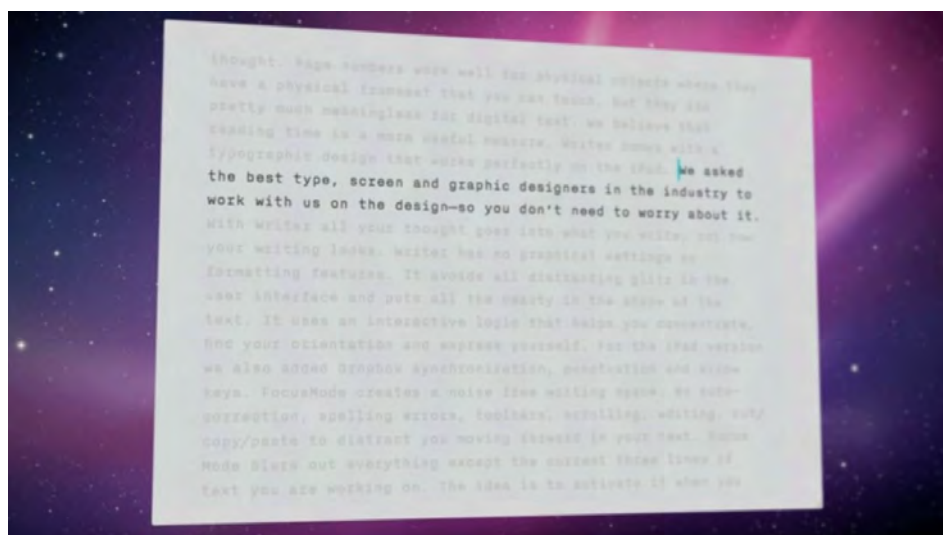
Figure 346. The clear interface of Apple's iA Writer app.

2. The approval badge given to the visitor during check-out could be used as a part of a larger, more systemic approach to furthering sustainable tourism. Apart from its initial intended use as an APPROVAL badge that may stimulate subsequent sustainable behaviour, it could also serve as a REWARD badge that gives the visitor a monetary discount off their next visit to that specific hotel or any tourism business member of the "Triggers for Change" community (see Figure 350 below).

Figure 347. An approval badge that rewards hotel visitors for their environmentally-friendly behaviour.

7.3.5 Webtool version 0.3

Following the feedback collected from evaluation of webtool version 0.2, the User-Interface is redesigned:
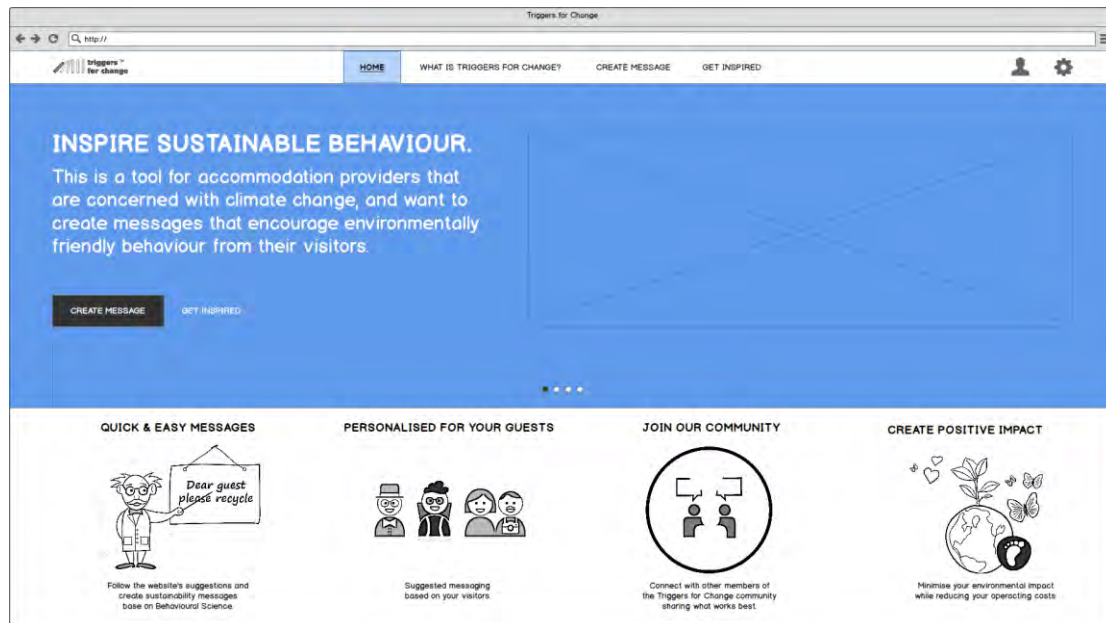
Figure 348. Developing the 'Homepage' of webtool version 0.3.
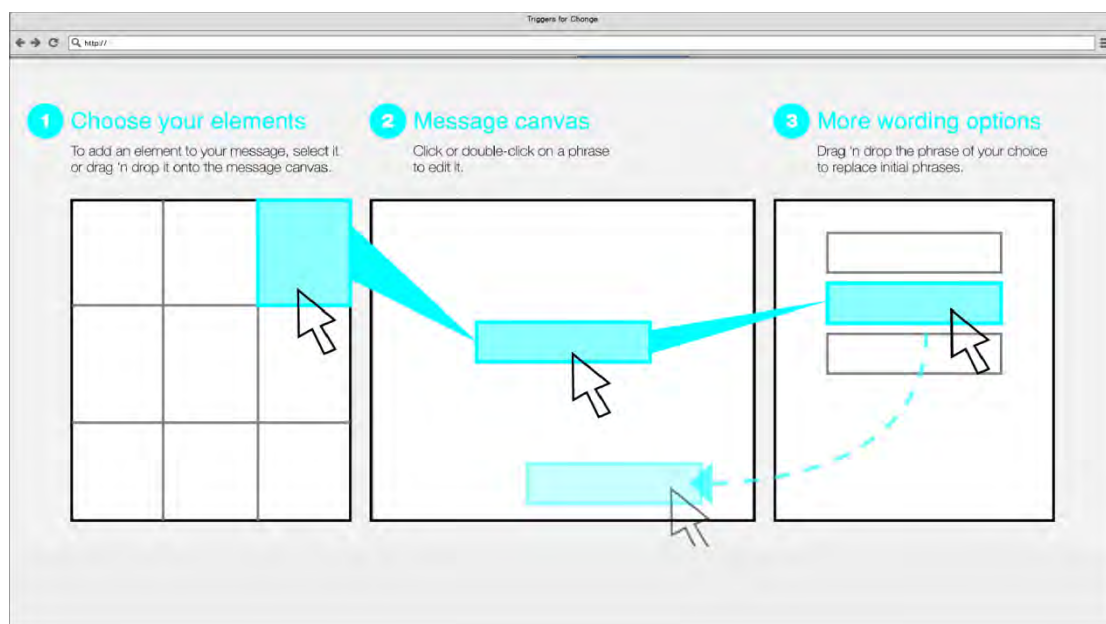
Figure 349. Developing the 'Message Canvas' of webtool version 0.3.
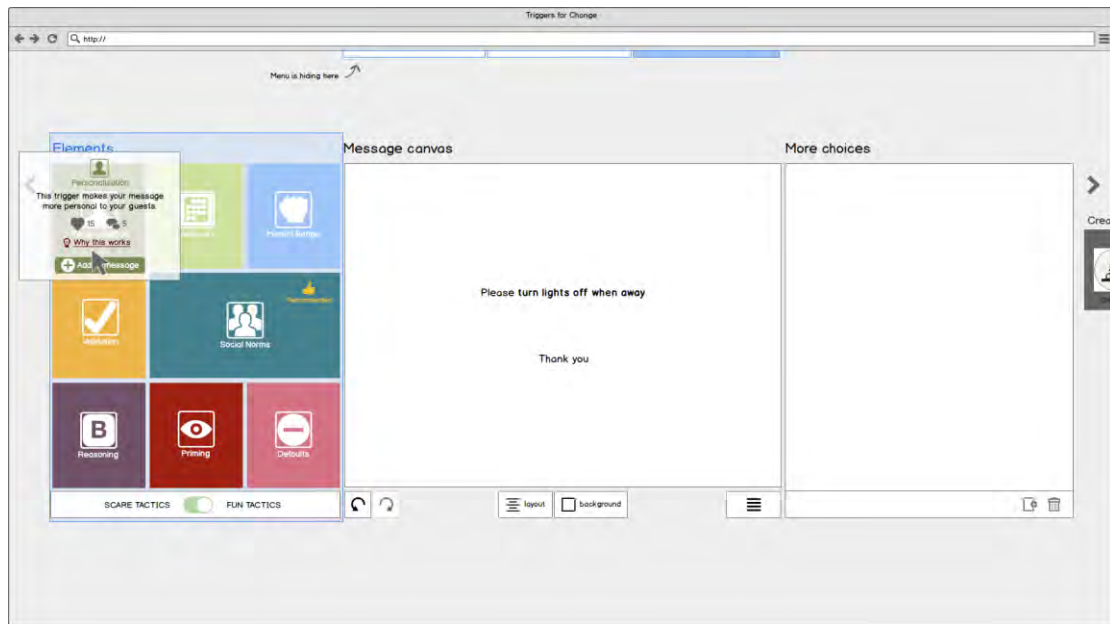
Figure 350. Developing the 'Message Canvas' of webtool version 0.3.
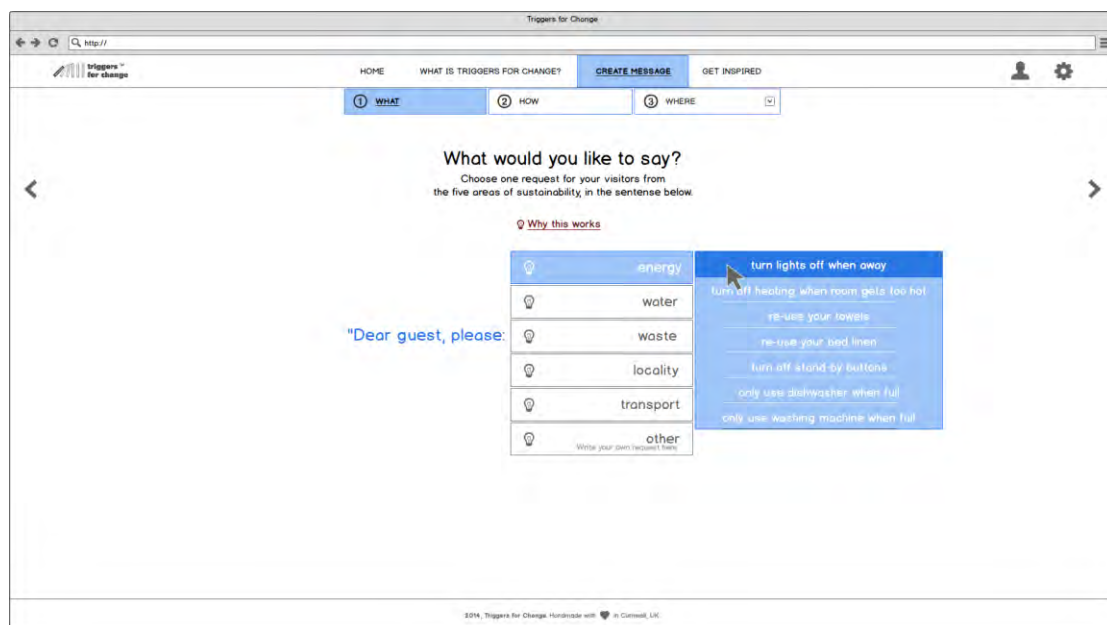
Figure 351. Developing the 'What would you like to say?' section of webtool version 0.3.
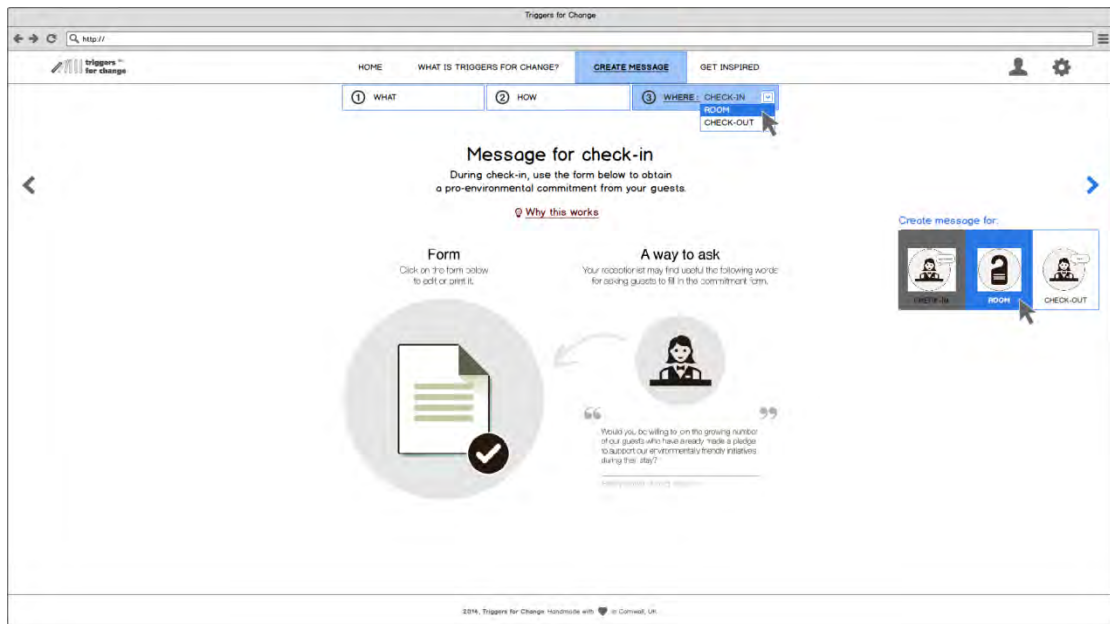
Figure 352. Developing the 'Check-in' section of webtool version 0.3.

Figure 353. Developing the 'Check-in' section of webtool version 0.3.

Figure 354. Developing the 'Check-out' section of webtool version 0.3.
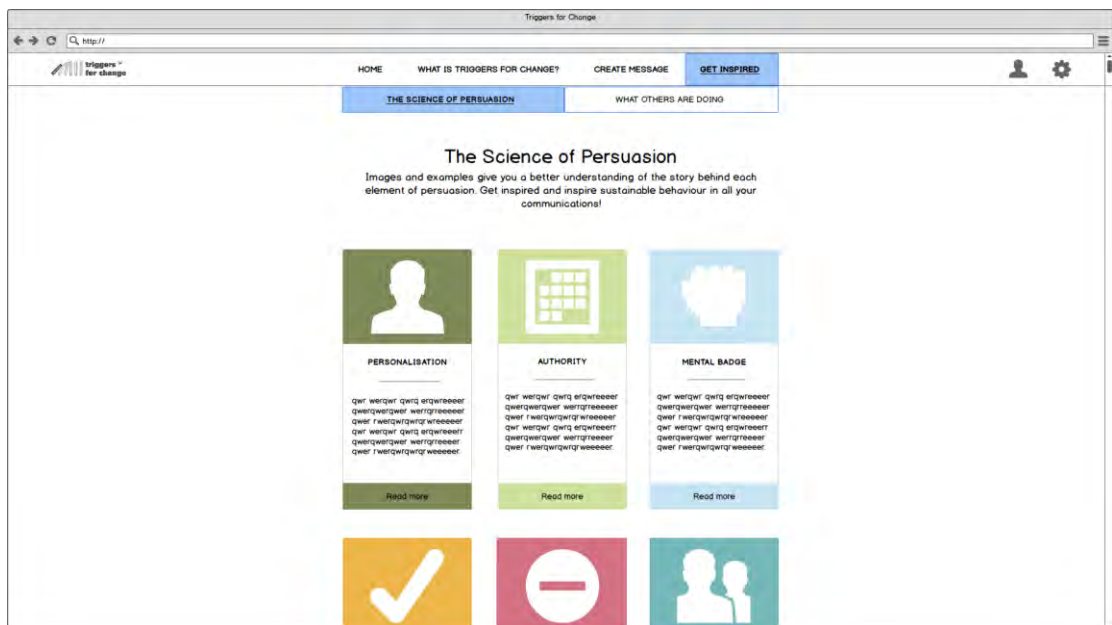
Figure 355. Developing the 'Get Inspired' section of webtool version 0.3.
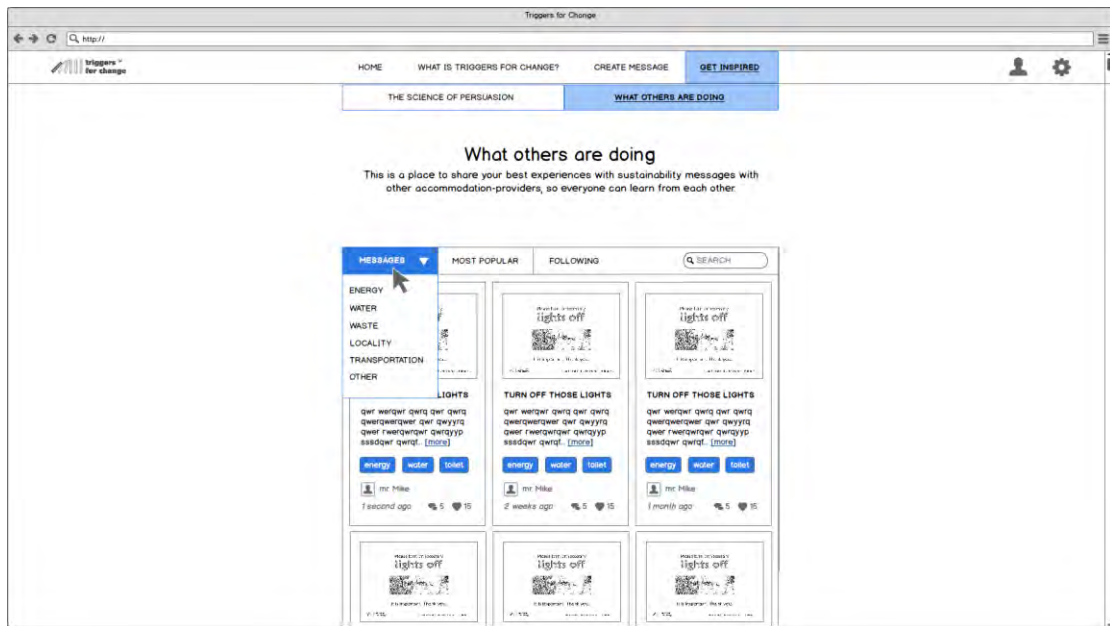
Figure 356. Developing the 'Get Inspired' section of webtool version 0.3.
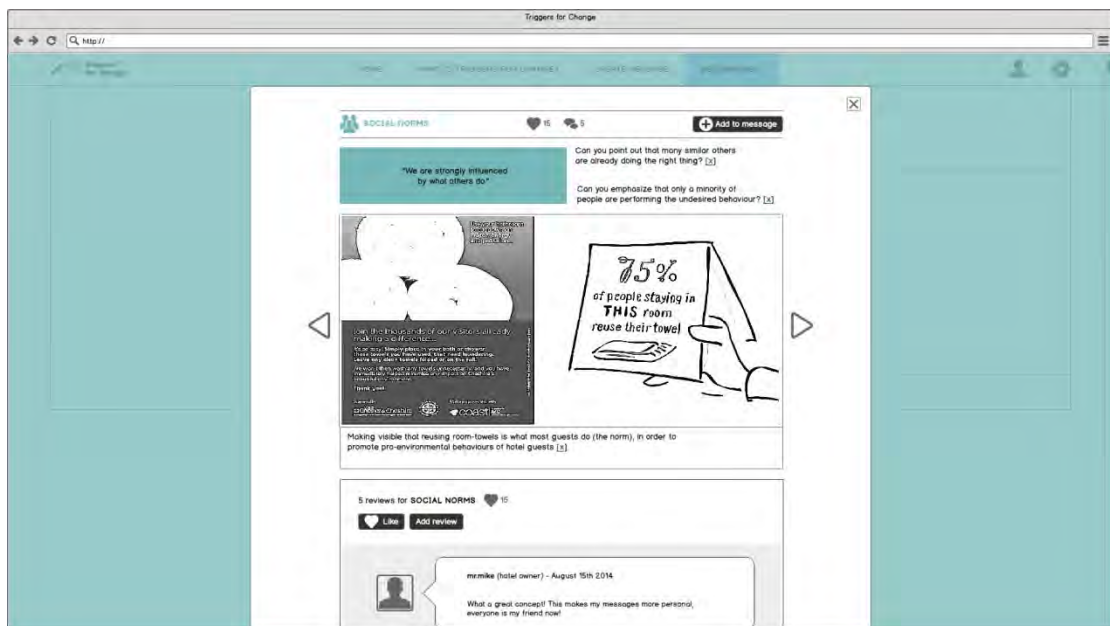
Figure 357. Explaining 'Social Norms' version 0.3

7.3.6 Evaluation of Webtool version 0.3

For the evaluation of Triggers for Change Webtool version 0.3, two Personal Interviews with UX design experts (Heuristic Evaluation) were designed and conducted.

7.3.6.1 Personal interviews with UX design experts (Heuristic Evaluation)

In this evaluation session, two Personal Interviews were conducted in order to involve skilled people in the design process. As we discussed in the previous Heuristic Evaluation session, the underlying philosophy of this method is again to take experts through the User-Interface, emphasising on the HOW (this is HOW 'Triggers for Change; works) in order to conduct a "Heuristic Evaluation" (Nielsen Norman Group, 2014b). Thus, UX experts identified usability problems of the User-Interface based on specific usability principles (heuristics), and that, in turn, informed the re-design process of Webtool version 1.0 (Final Triggers for Change Webtool design proposal).

UX design experts participated in this session of Webtool's heuristic evaluation:

- Dane Watkins, User-Interface designer (www.eatmydata.co.uk, social activation through online interactive animated surveys and socially engaged projects accessed through websites, Academy for Innovation and Research, Falmouth University)
- Thomas Koutroukis, SEO Executive at Netbooster UK, Cornwall (www.netbooster.co.uk)

As with the previous evaluation session, again the author took the role of the "observer", and sat beside the evaluators and asked them to examine the interface and verbalize their thoughts on how the webtool operates and what the various elements of the interface (e.g. button) might do. Evaluators used a set of 10 heuristics in order to discover usability problems in the Triggers for Change Webtool interface version 0.3. Evaluators where asked to complete 3 actual system tasks (most common tasks performed), also known as "typical usage scenarios", focused around the main functionality of the webtool:

- Scenario A: an unregistered user exploring the 'CREATE MESSAGE' section of the website; The evaluator was asked to examine the various function elements, in each of the 3 areas of the 'CREATE MESSAGE' section (WHAT, HOW, WHERE).
- Scenario B: a registered user creates a message, previews it, saves it, and prints it.
- Scenario C: a registered user exploring the 'GET INSPIRED' section, seeing other people's messages, and sharing their own message.

A task consists of specific steps that a user has to go through in order to complete it. As with the previous Heuristic Evaluation session, the author outlined these steps in an Interactive Sketching Notation, that he printed out and held before him, as a discussion material to help generate ideas and recommendations for improving the User Interface, and also to document the evaluators' thinking. Notably, the evaluators interact with the interface for the first time therefore so they have no previous knowledge of the order of the steps required.

Below, identified usability problems of the User-Interface based on specific usability principles (heuristics) are outlined:

A)
- **Issue:** The 'Create Message' menu, even though it has a progress-bar functionality, it does not look like a progress bar and that can confuse usability.
- **Heuristic principles:** Visibility of system status (#1)
- **Recommendation:** Make visually clear that the Create Message menu is a 3-step progress bar.
- **Severity:** Major usability problem: important to fix, so should be given high priority (3)
- **Ease of fixing:** Problem would require some effort to fix (2)
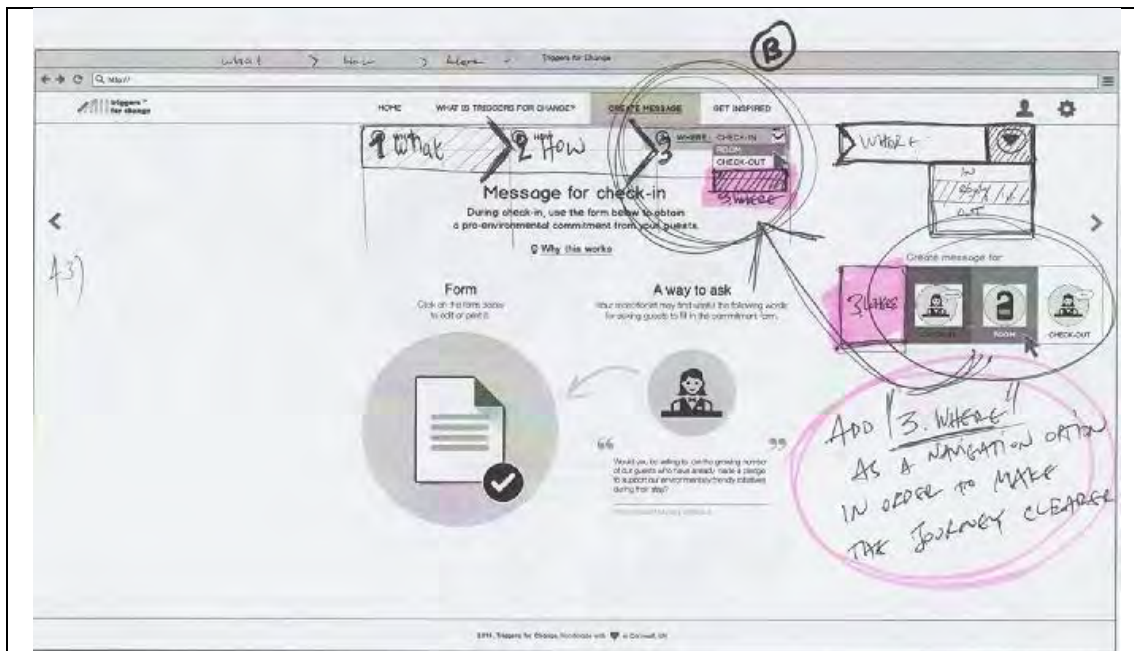
B)

- **Issue:** The embedded drop-down menu within the progress-bar is confusing navigation and usability.

- **Heuristic principles:** Visibility of system status (#1)

- **Recommendation:** Add "3. WHERE" as a navigation option in order to clarify the main steps involved in the user-journey.

- **Severity:** Major usability problem: important to fix, so should be given high priority (3)

- **Ease of fixing:** Problem would require some effort to fix (2).
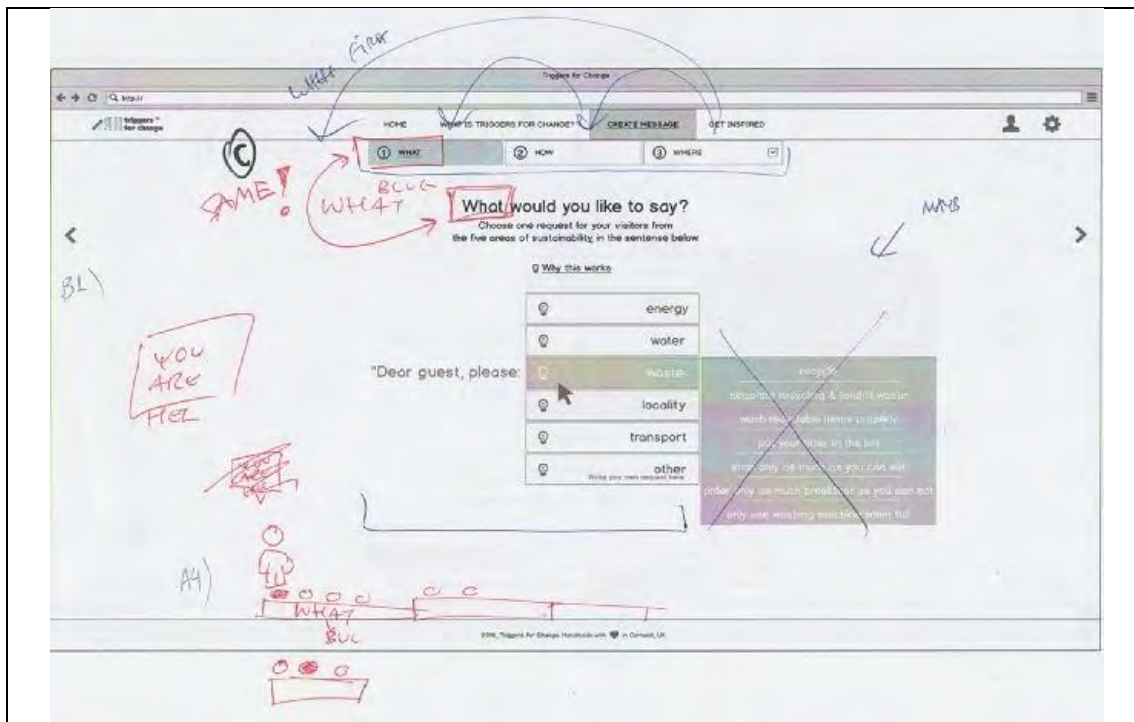
C)

- **Issue:** The 'Create Message' progress-bar displays the "WHAT" button in capital letters but at the same time the question "What would you like to say?" is written in a different format.
- **Heuristic principles:** Consistency and standards (#4)
- **Recommendation:** Use the same format for the word "WHAT" in the progress-bar and in the main page.
- **Severity:** Minor usability problem: fixing this should be given low priority (2).
- **Ease of fixing:** Problem would be extremely easy to fix (0).

D)

- **Issue:** The lack of text to control elements (back/forward arrow buttons) may confuse navigation.

- **Heuristic principles:** Visibility of system status (#1), User control and Freedom (#3), Consistency and standards (#4).

- **Recommendation:** Add distinguishable text.

- **Severity:** Cosmetic problem only: need not be fixed unless extra time is available on project (1).

- **Ease of fixing:** Problem would be extremely easy to fix (0).
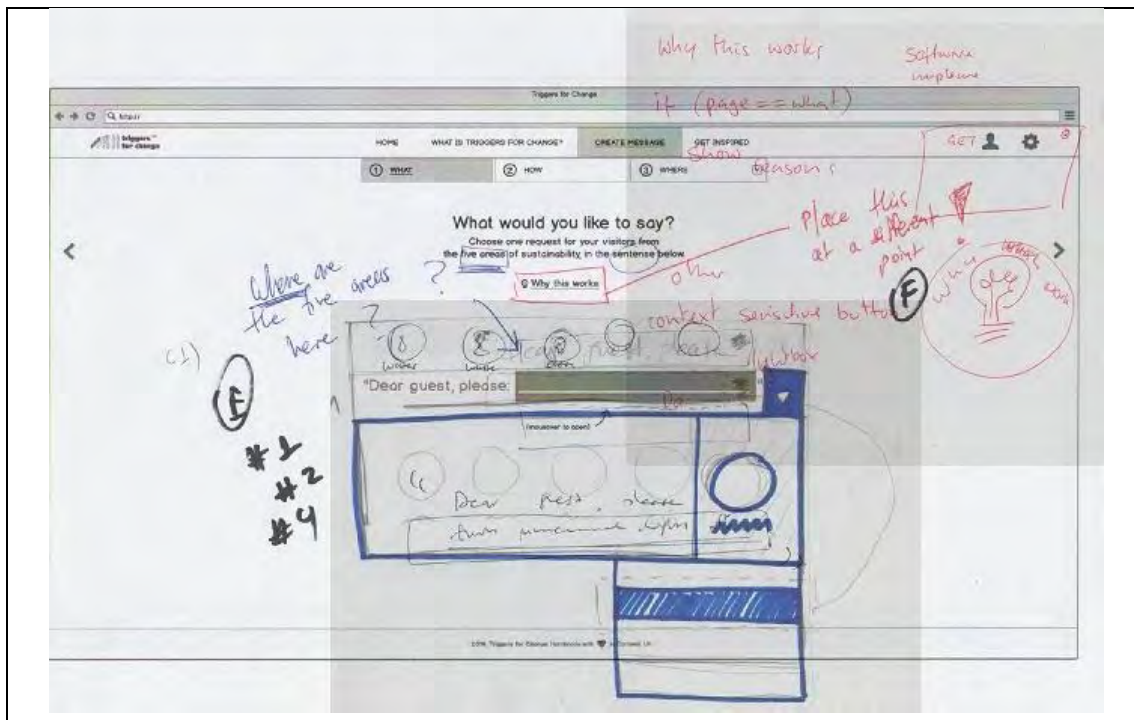
E)

- **Issue:** Where are the five areas? This is not clear for first-time users.
- **Heuristic principles:** Visibility of system status (#1), Match between system and the real world (#2), Consistency and standards (#4).
- **Recommendation:** Re-design the interface to give users a better guidance to the five areas.
- **Severity:** Major usability problem: important to fix, so should be given high priority (3)
- **Ease of fixing:** Problem would require some effort to fix (2).

F)

- **Issue:** The "Why this works" button occupies a very central position even though its role is not that central for using the webtool and creating a message.
- **Heuristic principles:** Visibility of system status (#1), User control and freedom (#3), Consistency and standards (#4).
- **Recommendation:** Place the "Why this works" button at a lower level of visual importance.
- **Severity:** Minor usability problem: fixing this should be given low priority (2)
- **Ease of fixing:** Problem would be easy to fix (1)
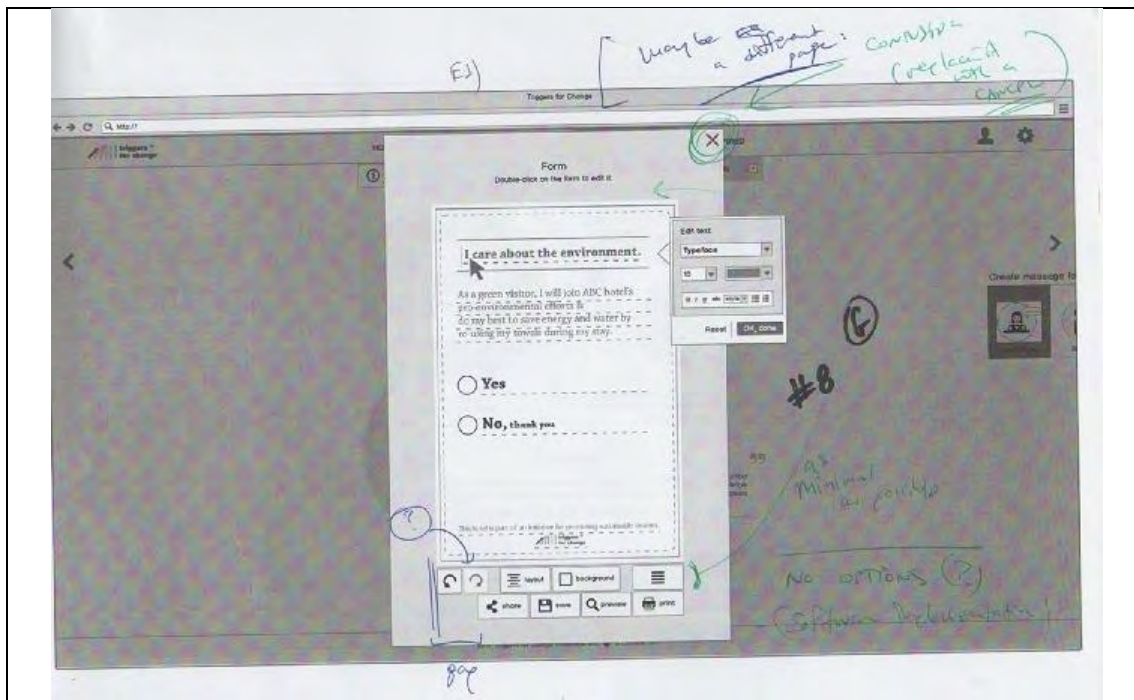
G)

- **Issue:** The form-editor is quite loaded visually, and users may feel overwhelmed by too much information.

- **Heuristic principles:** Aesthetic and minimalist design (#8).

- **Recommendation:** Clear the form-editor's interface from too many elements, making it visually lighter.

- **Severity:** Major usability problem: important to fix, so should be given high priority (3)

- **Ease of fixing:** Problem would be easy to fix (1).

H)

- **Issue:** Homepage lacks an engaging image.
- **Heuristic principles:** Visibility of system status (#1), Match between system and the real world (#2), User control and freedom (#3), Aesthetic and minimalist design (#8), Help and documentation (#10).
- **Recommendation:** Homepage must give a clear message about what it's all about. A mission statement that is clear and strong; make clear that this website is a tool.
- **Severity:** Major usability problem: important to fix, so should be given high priority (3)
- **Ease of fixing:** Problem would be easy to fix (1).

7.3.7 Webtool version 1.0 (User-Interface (UI) design, final proposal)

Following the feedback from the evaluation session of webtool version 0.3, the User-Interface is re-designed and 'Triggers for Change' Webtool reaches its final state as an informed proof of concept for this practice-based design research project. A discussion follows on limitations of the webtool and recommendations for further research.
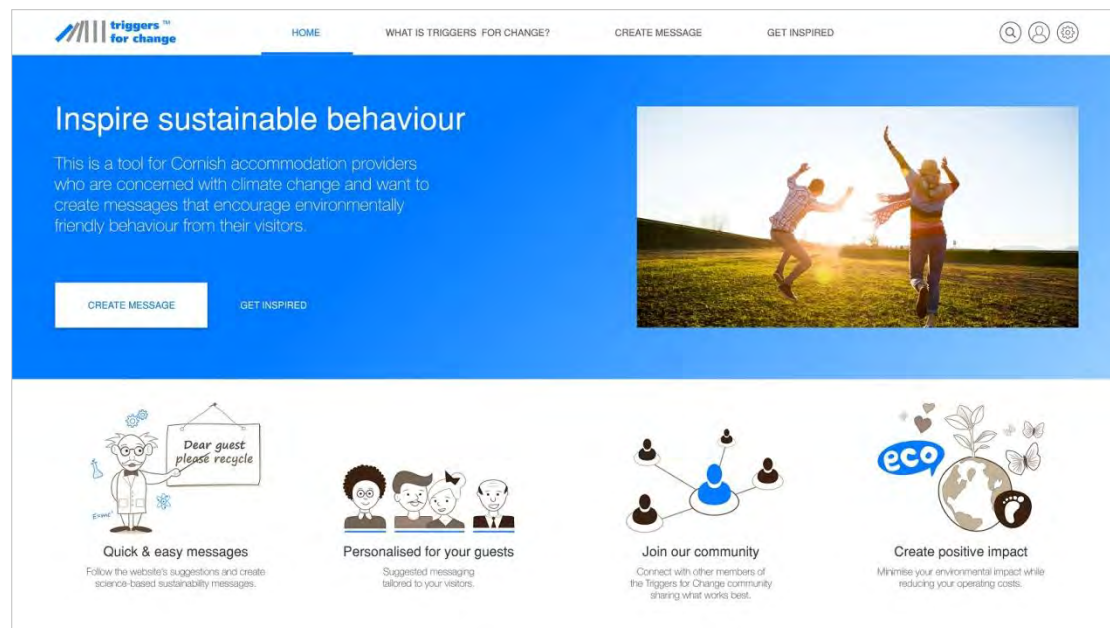
Figure 358. The webtool's 'Homepage' makes a clear statement of what this website is all about.
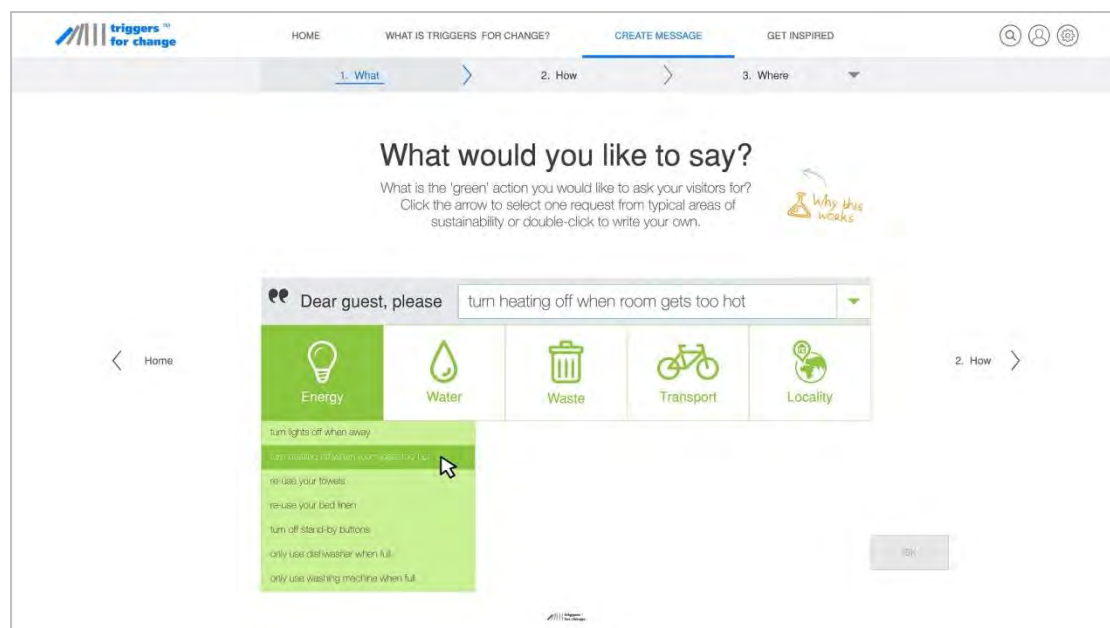
Figure 359. The webtool's 'What would you like to say?' section.

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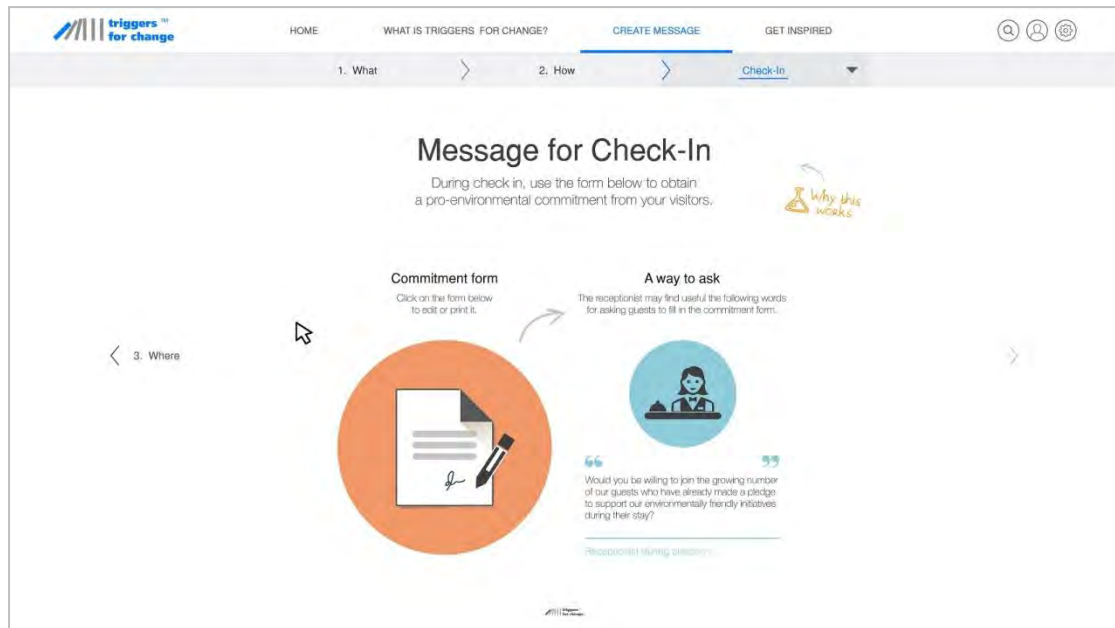
Figure 360. The webtool's 'Check in' section.
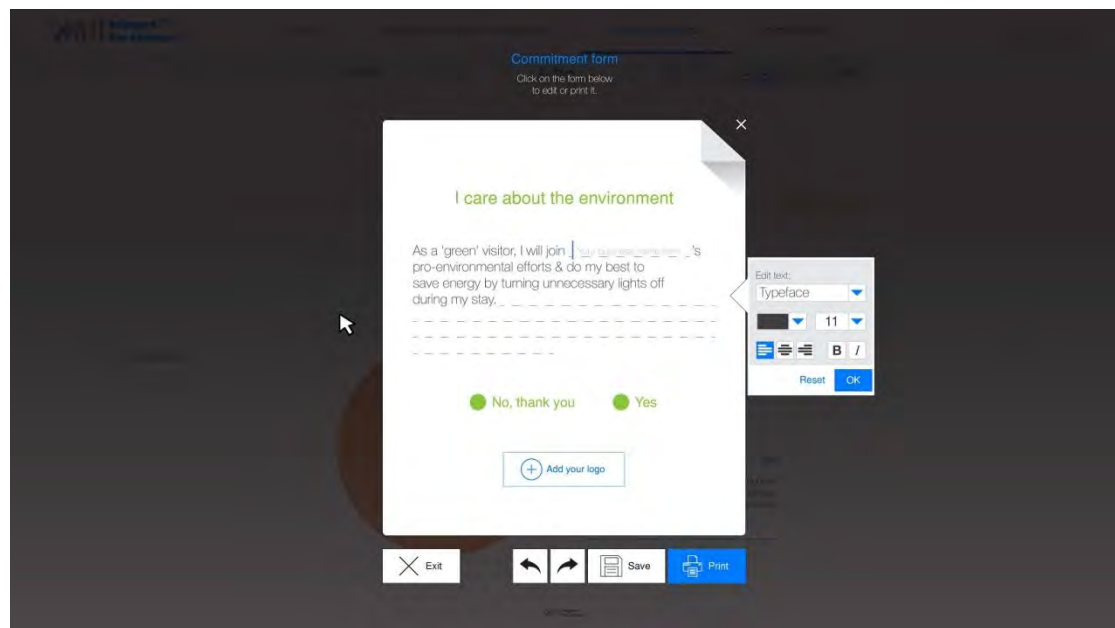
Figure 361. Creating a commitment form for visitors.
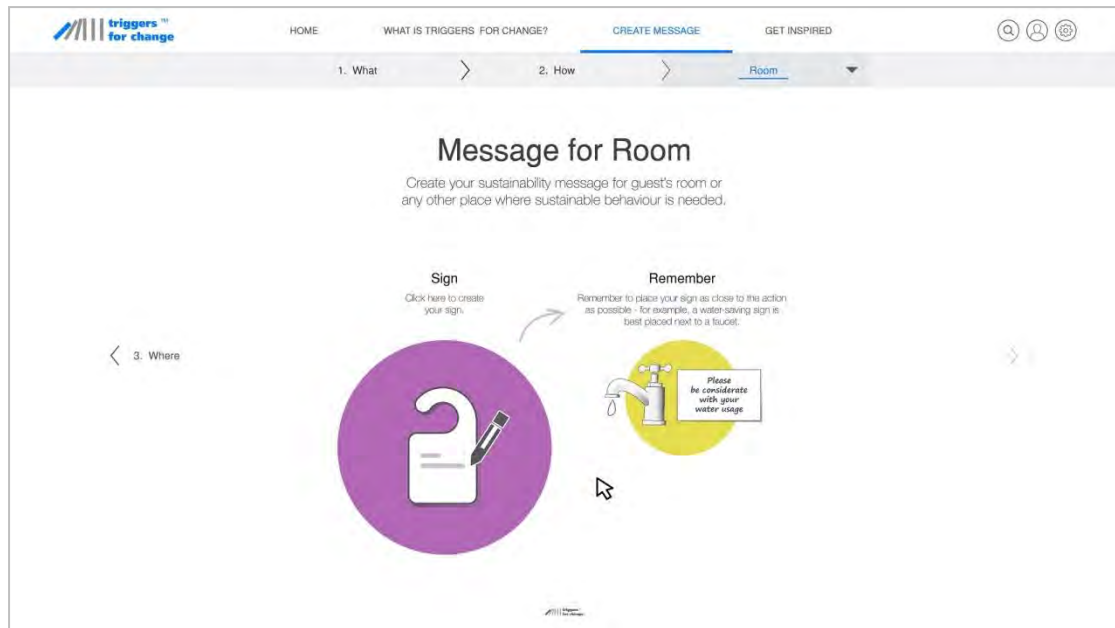
Figure 362. The webtool's 'Create Message' section.
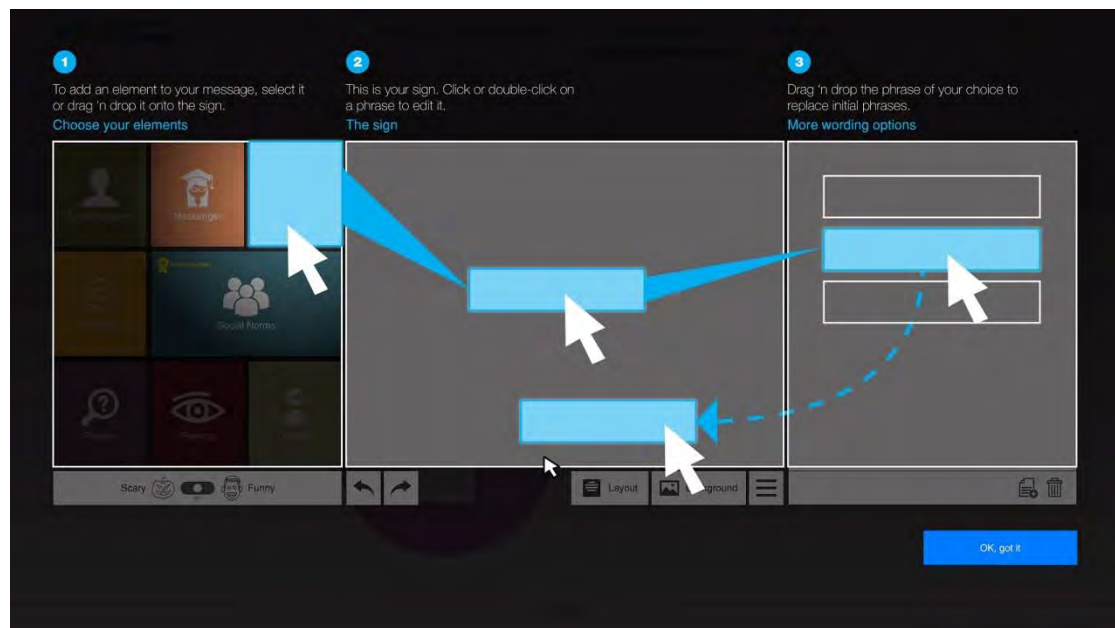
Figure 363. A layer explaining the 'Create Message' section.
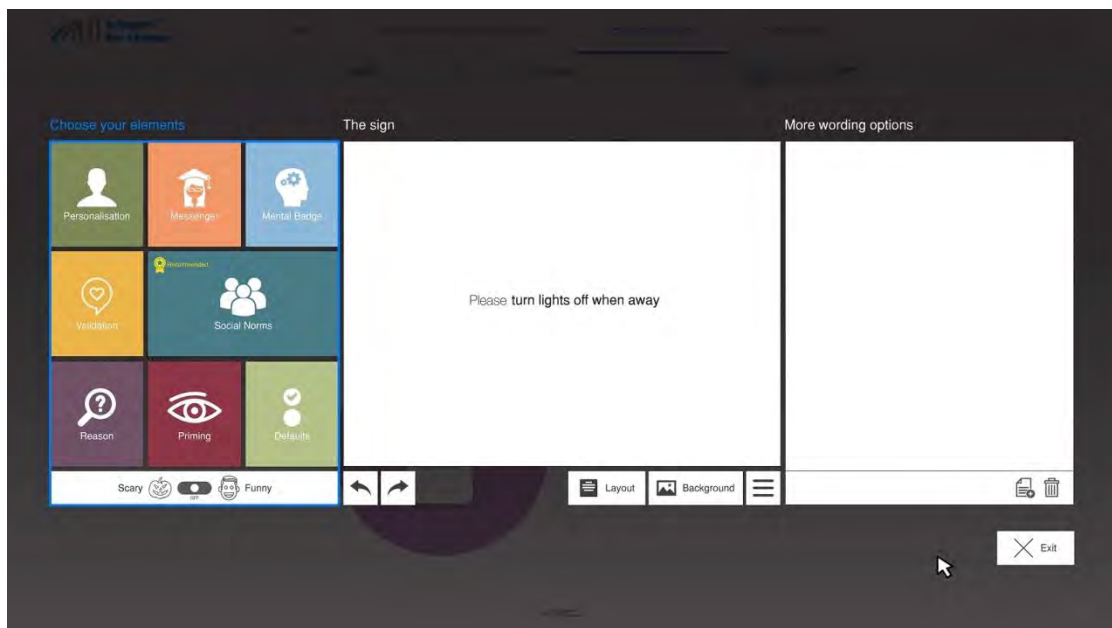
Figure 364. The webtool's 'Message Canvas'.
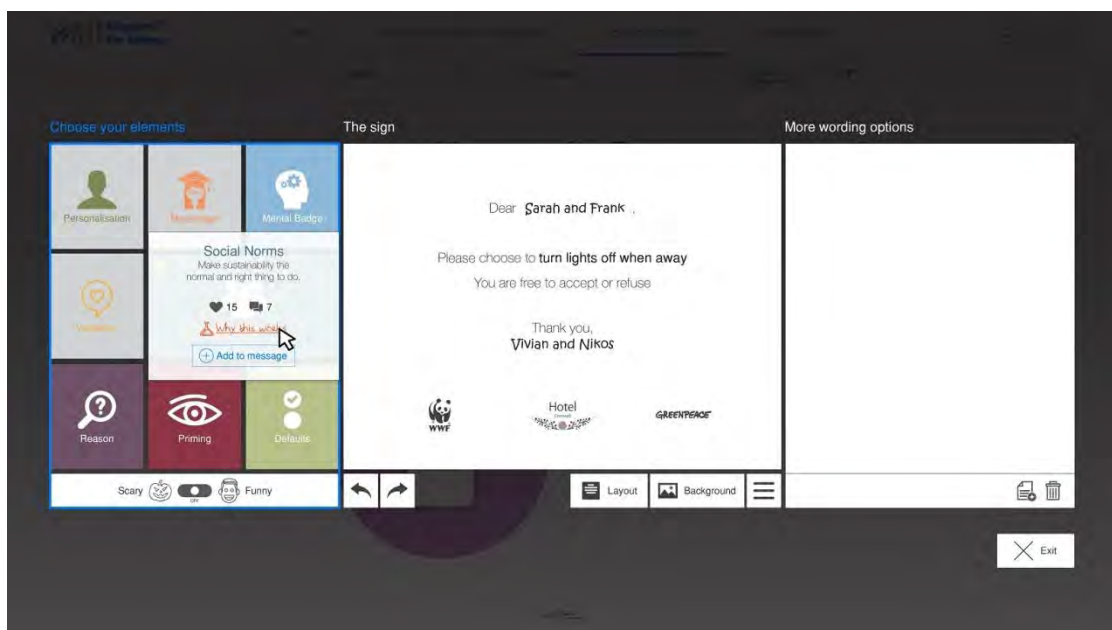
Figure 365. Viewing the explanation of 'Social Norms' element.
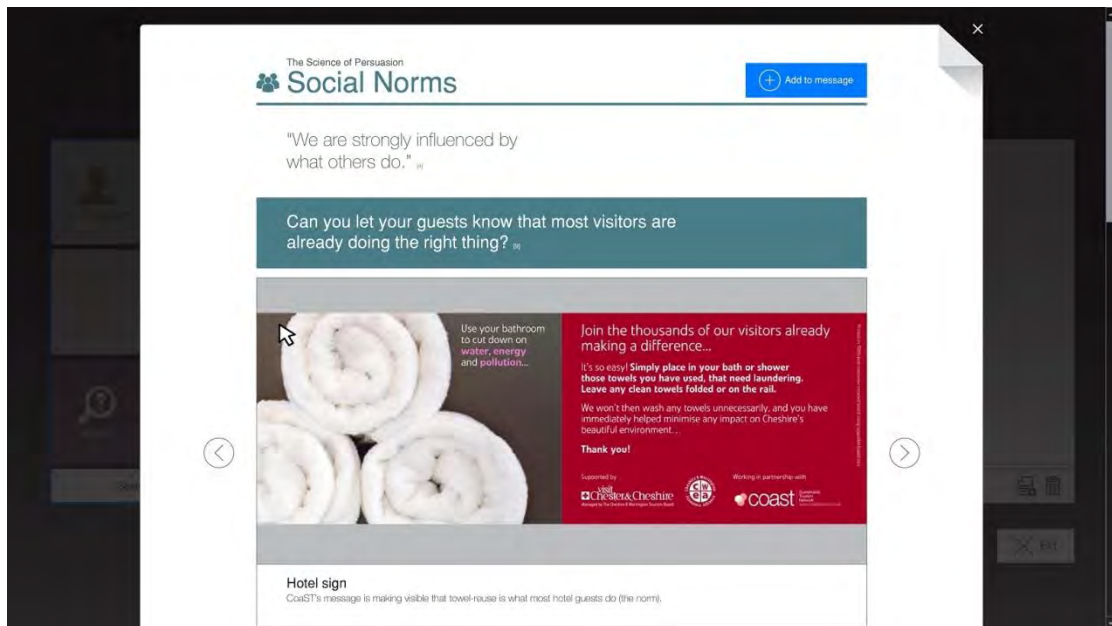
Figure 366. Viewing the 'Why this works?' section for 'Social Norms'.
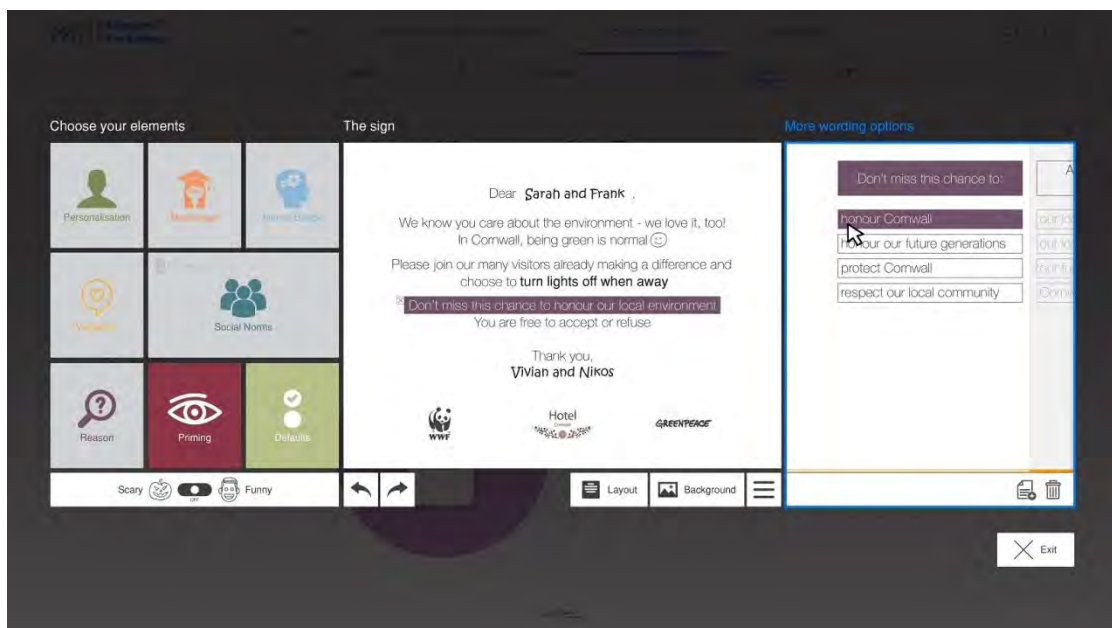
Figure 367. More wording options for 'Reason' element.

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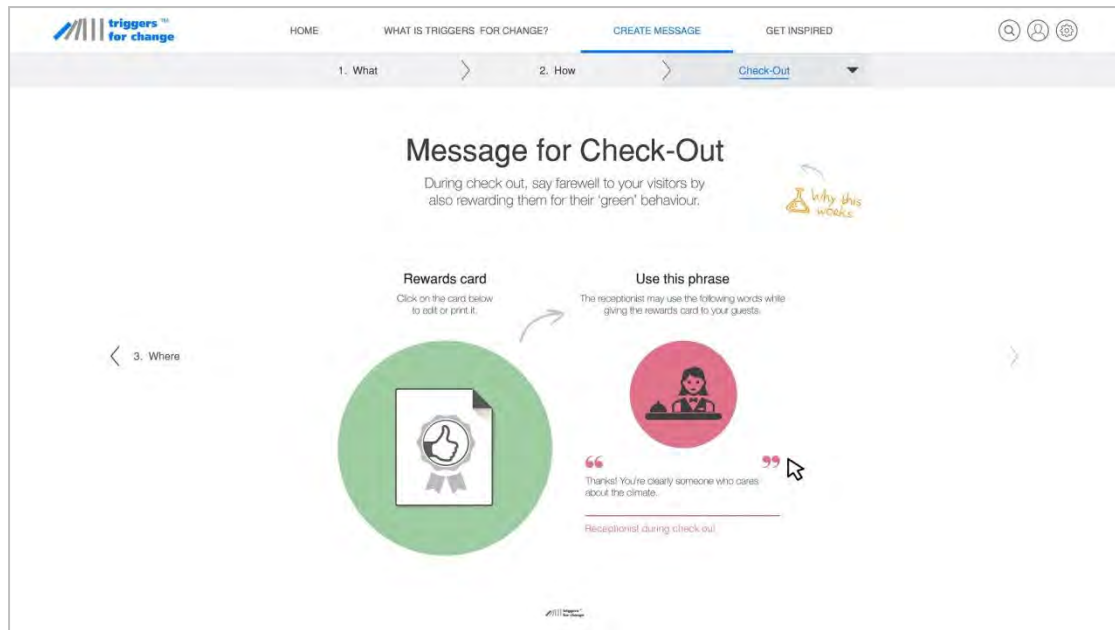
Figure 368. The webtool's 'Message for Check-Out' section.
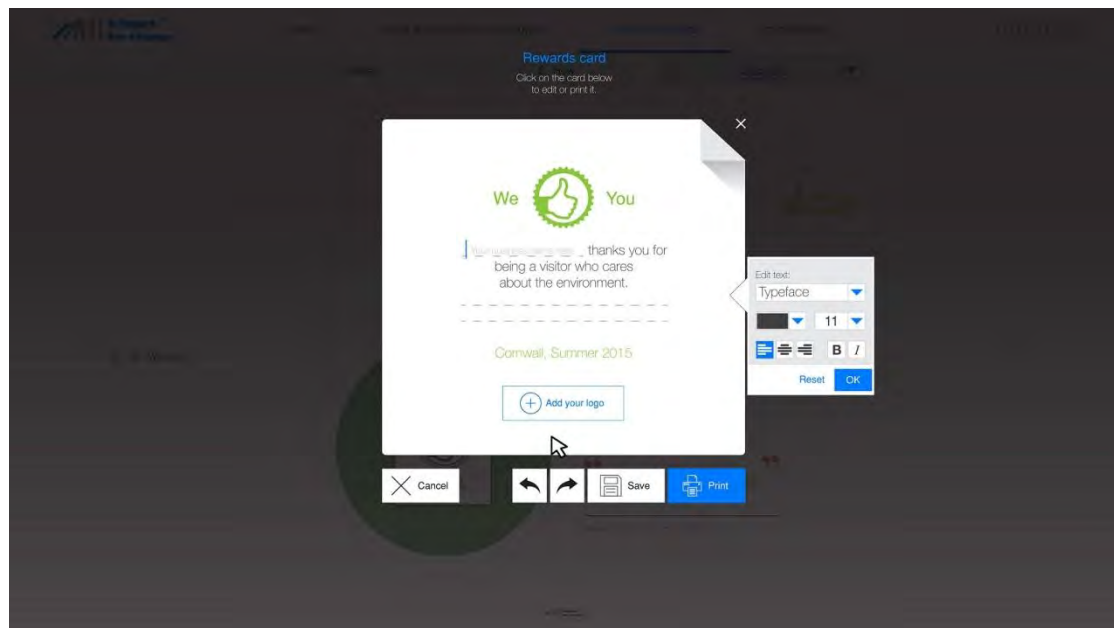
Figure 369. Creating a rewards card for visitors.
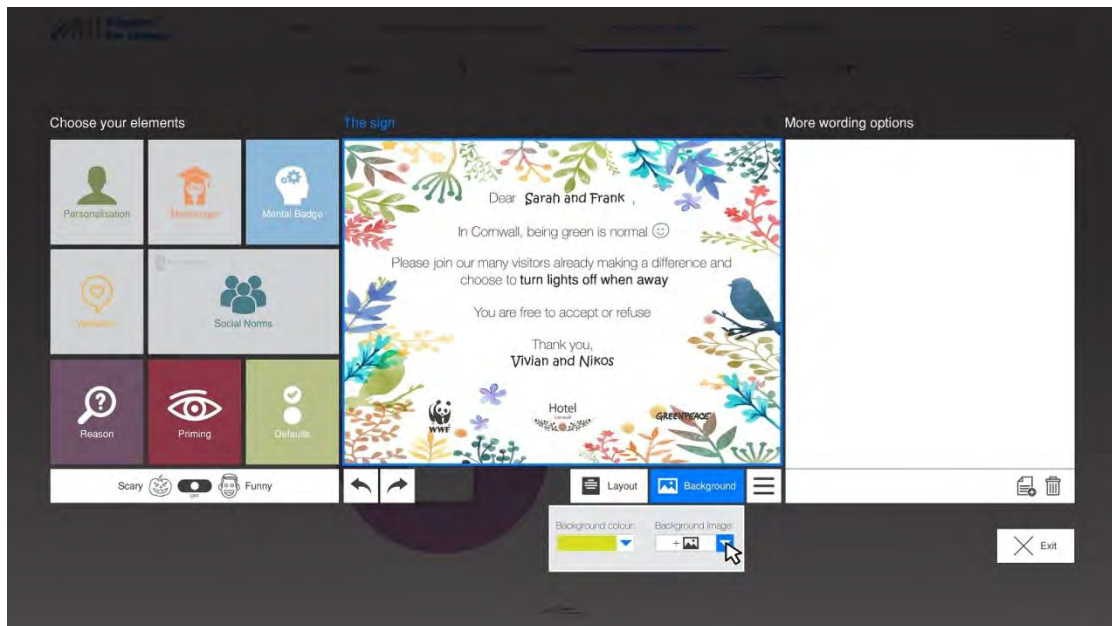
Figure 370. Adding a customisable background image to the sign.
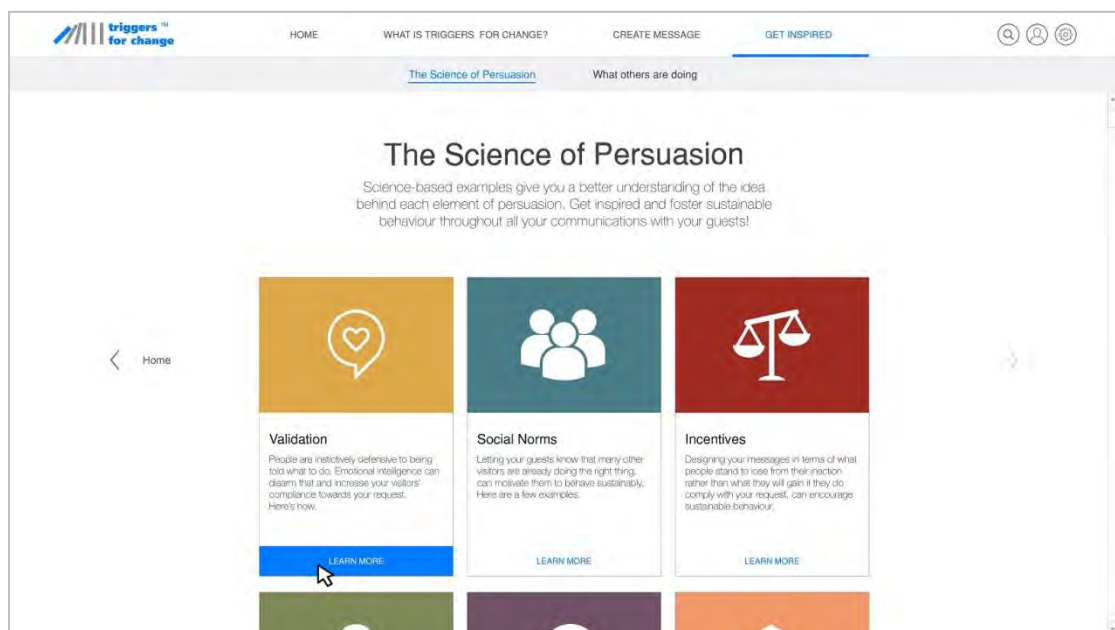
Figure 371. The webtool's 'The Science of Persuasion (Get Inspired)' section.

The Science of Persuasion   What others are doing

The Science of Persuasion

Science-based examples give you a better understanding of the idea behind each element of persuasion. Get inspired and foster sustainable behaviour throughout all your communications with your guests!

Home

Incentives
Designing your messages in terms of what people stand to lose from their inaction rather than what they will gain if they do comply with your request, can encourage sustainable behaviour.
LEARN MORE

Social Norms
Letting your guests know that many other visitors are already doing the right thing, can motivate them to behave sustainably. Here are a few examples.
LEARN MORE

Validation
People are instinctively defensive to being told what to do. Emotional intelligence can disarm that and increase your visitors' compliance towards your request. Here's how.
LEARN MORE

Messenger
A message about sustainability that displays authority and expertise can increase compliance from your guests. Here are some examples.
LEARN MORE

Reasoning
Providing simple reasons for your request can smoother your guests' decision values and further a long-term pro-environmental behaviour. Here's why.
LEARN MORE

Personalisation
Research shows that making your messages more personalised can nudge your visitors into a taste of ownership of environmental protection.
LEARN MORE

Capturing Attention
The first rule of persuasion is attracting people's attention. Here's how you can get your message noticed.
LEARN MORE

Priming
Science confirms that exposing people to cues of being watched can innovate environmentally-friendly behaviour.
LEARN MORE

Defaults
Setting the environmentally-friendly choice as the pre-selected option can nudge your visitors into sustainable behaviour. Here's how you can be a 'Choice Architect'.
LEARN MORE

Knowing your Visitors
Understanding if your guests have already a personal interest in environmental sustainability helps you modify your messages accordingly and avoid preaching to the converted.
LEARN MORE

Positive Words
According to research, your visitors will respond better to positively, rather than negatively, phrased messages. Find out more here.
LEARN MORE

Mental Badge
Communicating with your guests as if they do care about the climate, nudges them to see themselves in that way and, thus, behave accordingly. Here's how.
LEARN MORE

Simplicity
Another rule of persuasion is to keep your message simple and avoid overloading it with information. Here's why.
LEARN MORE

Specificity
Being specific about the sustainable actions you want your guests to perform and clearly articulating the steps needed to be taken, makes your message more effective.
LEARN MORE

Kairos
When and where to communicate? Research shows that it's more effective to utilise your sustainability message as close to the action as possible. Here are some examples.
LEARN MORE

'Triggers for Change' Academic References
All studies from academic areas such as Behavioral Science, Social Science, Neuroscience, Environmental Psychology, Community-based Social Marketing, that support the science of persuasion.
LEARN MORE

Commitment
Asking your visitors for a personal agreement to support your pro-environmental initiatives can motivate sustainable behaviour. Here's how.
LEARN MORE
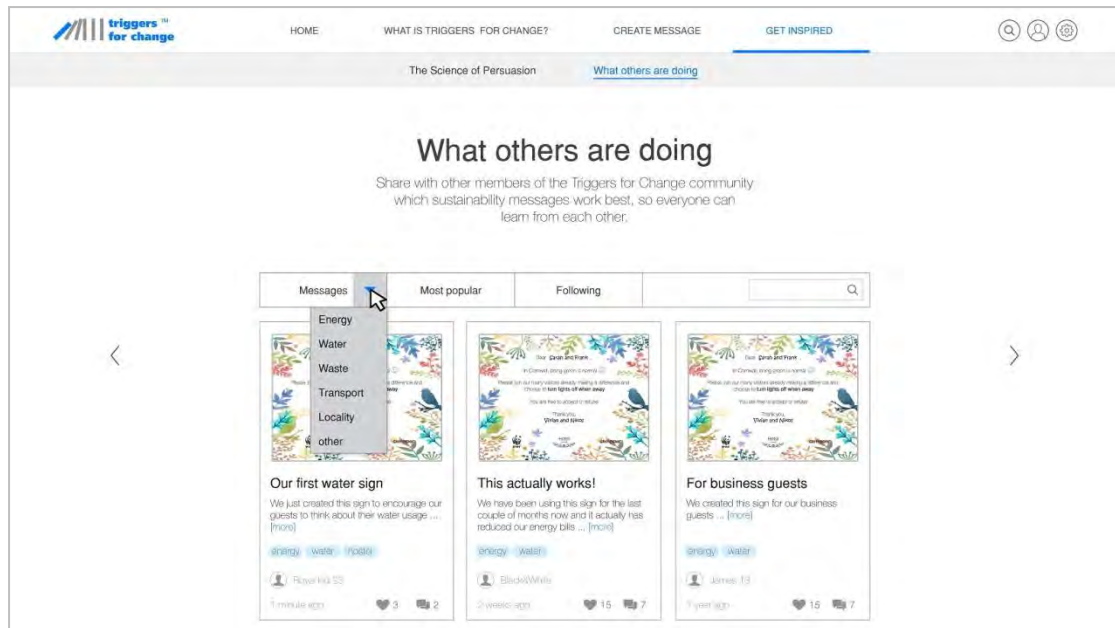
Figure 372. The webtool's 'What Others Are Doing (Get Inspired)' section.
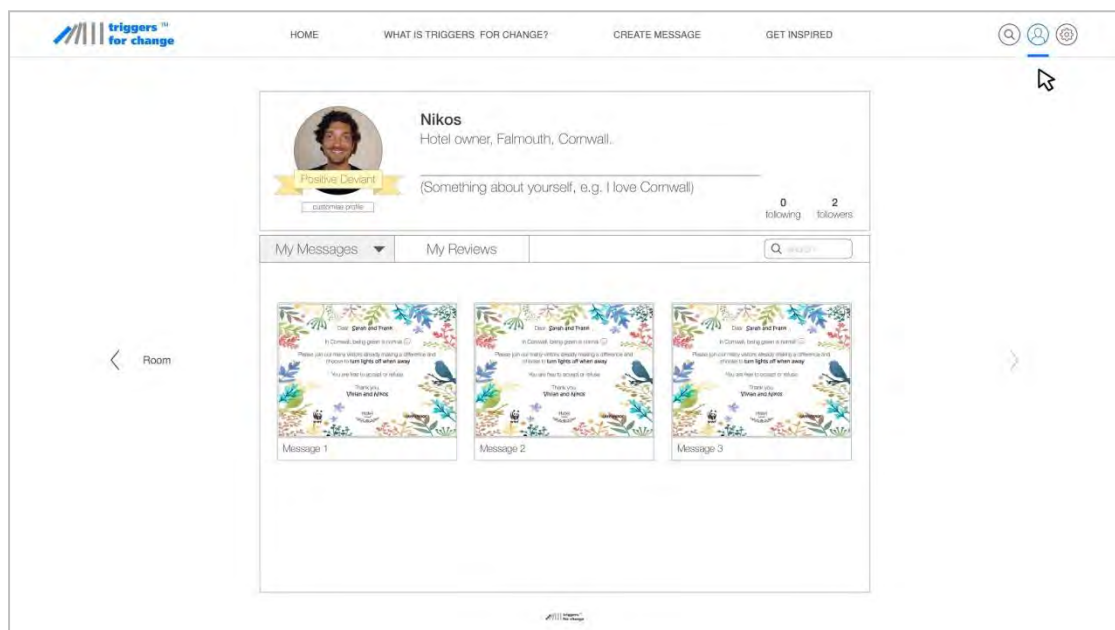
Figure 373. The webtool's 'My Profile' section.

Last, the remaining pages of this Chapter consist of three carefully researched sustainability signs, along with the persuasive principles that underpin them, as examples of potential outcomes from using Triggers for Change webtool.

Dear Sarah and Frank,

In Cornwall, being green is normal ☺

Please join our many visitors already making a difference
and try to **turn lights off when away**

You are free to accept or refuse

Thank you,
Vivian and Nikos

Hotel
Cornwall

GREENPEACE

WWF

Norms

Validation

Messenger

Personalisation

Dear Sarah and Frank,

In Cornwall, being green is normal ☺

Please join our many visitors already making a difference and try to **turn lights off when away**

You are free to accept or refuse

Thank you,

Vivian and Nikos

Hotel
Cornwall

GREENPEACE

WWF

449

@re you horlam Or jsut rellay wirder??

Dear guys & girls,

In this hostel, saving energy is normal 😊

Please turn lights off when away

Being considerate with energy
unites us with nature

Thanks,
Vivian and Nikos

Priming

Norms

Incentives
&
Reasoning

Attention

Personalisation

Dear Moriah, Toten and Yorick,

We know you care about the environment
- we love it, too!

Please choose to **turn lights off when away**

Don't miss this chance to honour
our beautiful local environment

Thank you,
Vivian and Nikos

Hotel
Cornwall

SURFERS AGAINST SEWAGE

CORNWALL COUNCIL

Mental Badge

Norms

Incentives & Reasoning

Messenger

Validation

Personalisation

Dear Moriah, Foten and Yorick,

We know you care about the environment - we love it, too!

Please choose to turn lights off when away

Don't miss this chance to honour our beautiful local environment

Thank you,
Vivian and Nikos

Hotel
Cornwall

SURFERS AGAINST SEWAGE

CORNWALL COUNCIL

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Chapter 8: Conclusions and Discussion

8.1   Conclusions

As the end of this thesis, Chapter 8 discusses the contribution to knowledge of this practice-based project in both *design research* (the iterative ontogenesis and assessment of 'Triggers for Change' Webtool) and *design practice* (the Webtool), by recapitulating the main investigations and results of each chapter in conjunction with the answers to the identified research questions.

It all started on 1st October 2011 with a full time European Social Fund (ESF) studentship for a PhD study in Falmouth, Cornwall. The mission statement was simple yet vague and challenging: use design as a medium to reinforce Sustainable Tourism in Cornwall.

In introductory **Chapter 1**, the project discussed theory beyond the design discipline in order to provide a clear contextual and theoretical grounding for this practice-based design research. Following an in-depth analysis of literature on Tourism, Chapter 1 acknowledged that Tourism (in Cornwall) in its current form is a carbon-intensive industry and a major contributor to CO_2 emissions and climate change, and identified the need to challenge conventional patterns of producing and consuming the touristic experience in order to further Sustainable Tourism (in Cornwall). Since this research cannot address every sector of the Tourism industry, as it would be enormously challenging to deep-dive into human behaviour in a single thesis, Chapter 1 clarified that the project operated within the boundaries of accommodation-provision (the second largest sector of Tourism that contributes to greenhouse emissions), with an overall aim to reduce/eliminate its CO_2 emissions. Moreover, this Chapter discussed the concepts of 'Green-washing' and 'Carrying-Capacity' and the importance of carefully examining them in order to truly promote Sustainable Development. Last, Chapter 1 introduced the project's business partner: Cornwall Sustainable Tourism project (CoaST Ltd.), who supported this research and provided access to its 'One Planet Tourism Network'; a network consisting of more than 3100 members who take an active role in promoting sustainable practices in Tourism. Following the critical reflection on the paradox of promoting Sustainable Behaviour in mass-tourism, Chapter 1 uncovered the research question:

How can we promote Sustainable Tourism in Cornwall?

Taking a critically reflective approach, **Chapter 2** provided evidence of the author's understanding of the areas of 'Sustainable Consumption' and 'Design for Sustainable Behaviour' and how particular texts and theoretical models are appropriate for this research project. Chapter 2 identified the widely recognised need to encourage sustainable consumption and described how the behaviour of tourists is a major determinant of the tourism industry's contribution to CO_2 emissions and, thus, climate change. It also identified

the need to focus on a behavioural point of view, not a technical one, in order to further Sustainable Tourism in Cornwall. By doing so, this Chapter addressed the research question identified in Chapter 1. This means that influencing the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns, means to promote Sustainable Tourism in Cornwall. Notably, Chapter 2 acknowledged the need to move away from our evangelic obsession with material-centred solutions and employ a more intangible, systemic approach to understand and influence the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns during CO_2-related Human-Artefact interactions within the context of Cornish accommodation-provision. An opportunity was identified to challenge conventional approaches to changing human behaviour and employ a "nudging" approach for furthering Sustainable Tourism (an approach endorsed by design-led research into behaviour-change). This discovery reinforced the project's direction, thus, this practice-based research is directly built upon DfSB thinking and hopefully contributes to a new development of DfSB strategies. Last, Chapter 2 critically reflected on methods that conceal values of sustainability within other, more favoured human attributes, and questioned the separation of cause and effect in the name of 'appropriate' behaviour. The above led to the research question:

> How can we influence the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patters?

Chapter 3 acknowledged the role of design in furthering human behaviour change towards desired practices, but also illustrated the need to challenge conventional approaches of design, where by default a tangible artefact is considered 'the solution' to a problem (and design is only regarded as a way of doing), and adopt contemporary, Sustainable Design approaches, where design is also a way of thinking at a systemic level, thus, accepting Sustainable Design's responsibility to address concerns of human purpose and "basic questions of existence" (Heskett, 2002, p.2), aiming to "contribute to the common good" (Walker, 2014, p.129). Chapter 3 provided a comprehensive contextual review of 'Communication Design', bringing together and analysing contemporary theoretical approaches and principles for communicating and influencing human behaviour towards intended patterns. This Chapter, first explained the relationship between language, words and design, and then, through a synthesis of illustrated examples and case-studies, provided a better understanding of the subject matter. By doing so, it addressed the research question identified in the previous chapter. This means that (Communication) Design was used as a medium to influence the behaviour of tourists visiting Cornwall towards more environmentally and socially friendly patterns and, thus, promote Sustainable Tourism in Cornwall.

Communication Design is an area of Sustainable Design that can challenge conventional approaches and drive further the agenda of sustainability. This research explored, through a designer's perspective, the way language could influence human behaviour and asserted that small changes in words can have a big impact on encouraging sustainable visitor behaviour in Cornwall; a near-costless approach to significantly reducing resource consumption that in turn can lead to significant environmental and economic benefits for the tourism industry. Notably, this Chapter illustrated that Communication (especially text-based messages) is by its very nature subject to an individual's interpretation, therefore, when designing sustainable behaviour initiatives, designers need to be aware of the possibility of a gap between their intentions and users' actual behaviour. This means that due to the human condition of 'personal interpretation', the project's chosen medium (text-based signs) for furthering Sustainable Tourism, as carefully crafted as it may be, can only hope to be a small part of the solution to climate change. Last, this Chapter identified the need to emphasise a values-based approach to communicating and influencing sustainable behaviour of tourists visiting Cornwall; an approach that challenges conventional overreliance on Self-Enhancing (extrinsic) values and energises tourists' Self-Transcendent (intrinsic) values. The above led to the research questions:

What kind of words? Which tone of language is appropriate for the context of Tourism?

Following the identification of Sustainable (Communication) Design as this project's medium for changing human behaviour, **Chapter 4** explored the contemporary field of 'Behavioural Economics' and discussed how "hidden quirks, judgemental biases, and apparent irrationalities" are leading factors that can characterise everyday human decision-making (Payne, 2012, preface). Thus, Chapter 4 described Dolan et al's (2012, p.264) MINDSPACE model "which gathers up the nine most robust effects that influence our behaviour in mostly automatic (rather than deliberate) ways", and provided a better understanding of the subject matter by enriching the model with additional academic theory, case-studies, and illustrated examples. By doing so, Chapter 4 addressed two main research questions identified in Chapter 2 and Chapter 3. This means that this design research employed language and words that derive from contextual factors for influencing human behaviour, thus adopted contemporary approaches to exploring, explaining and changing human behaviour, viewing individuals as "social animals" (Okasha et al, 2012, p.2), in order to address the identified need to help the Cornish Tourism industry to improve its sustainability communications by helping them "[get] at the heart of asking a question using the right words." (Payne, 2012, p.12). The above conclusions lead to the research question:

What kind of delivery platform would be appropriate for applying those influence strategies in order to support and improve the persuasiveness of CoaST's One Planet Tourism Network sustainability-communications with their visitors?

Chapter 5 established the design criteria as a starting point for design engagement. This means that key issues/barriers/needs identified from in-depth analysis of primary and secondary sources were brought to light and established this project's design criteria that, in turn, were translated into a conceptual design response in Chapter 7. Moreover, this Chapter introduced the 'Elements of Persuasion' table: an accessible summary of principles and techniques for communicating and influencing sustainable behaviour, that specifically builds upon Dolan et al's 2012 "MINDSPACE model" and Cialdini's 2007 "Six Universal Principles of Persuasion" and generally upon a synthesis of insights from a wide multi-disciplinary literature review such as Behavioural Economics, Social Sciences, Environmental Psychology, Neuroscience, and Community-based Social Marketing. In turn, Chapter 5 revisited in a simple and comprehensive manner the main idea behind each influence factor of the 'Elements of Persuasion' table, and considered its practical application and the (communication) design opportunities it enables for promoting Sustainable Tourism in Cornwall. By doing so, this Chapter strengthened the case for design's role in furthering sustainability and illustrated the project's path to promoting Sustainable Tourism. Last, this Chapter informed the design response described in Chapter 7 by:

- considering the feedback from Cornish accommodation providers on the potential use of the various elements of persuasion in their communication with tourists visiting Cornwall.
- translating various Elements of Persuasion into applicable objects of text-based communication (i.e., linguistic devices).

Chapter 6 outlined the overarching design-research methodological approaches used for meeting the aims and objectives of this research project. It explained the selection of different methods and described their epistemological justification for being appropriate, valuable and reliable. This exploratory and qualitative research is carried within the framework of grounded theory. Moreover, this chapter distinguished between two elements of the research process, namely 'methods' and 'methodology'. Based on Hiles (1999) and Robson (2002), the 'research design' phase consisted of the following fundamental aspects:

- Research Paradigm
- Research Purpose
- Research Type

- Research Strategy
- Data Collection Methods
- Data Analysis Techniques

Following the examination of a befitting research methodology and the recognition of this project's aims and objectives, **Chapter 7** described how the User-Interface (UI) of the Webtool was developed and illustrated the iterative design process followed in order to prototype a design response that consolidated the findings of this practice-based design research. By doing so, this Chapter demonstrated the role of Sustainable Design as an effective medium to change touristic behaviour, lessen its impact and support sustainability in Tourism, thus promoting a low-carbon, sustainable society.

This design research consists of an original project section in which new knowledge is consolidated in the form of a webtool called 'Triggers for Change': a digital platform, developed and evaluated through an iterative Heuristic Evaluation design process, which serves both as an online resource framework for the Tourism sector, as well as a digital platform for popular discourse. Thus, following the identification of the need to assist tourism-businesses (accommodation-providers), who wish to take an active role in furthering sustainable tourism, by improving the effectiveness of their sustainability communications with their visitors, 'Triggers for Change' was designed as an accessible, user-friendly webtool for the Cornish Tourism industry that aims to improve the persuasiveness of accommodation-providers' sustainability communications with their visitors, therefore minimising the industry's contribution to CO_2 emissions and climate change, and, thus, furthering Sustainable Tourism in Cornwall.

8.2 Dissemination of Research

As we explicitly discuss in Chapter 6: 'Focus group B: Cultural Tourism Sandpit at Falmouth University', it can be confidently asserted that the value of this practice-based design research is not only in *the design response* but equally important in *the research process* itself.

8.3 Next Steps

A website can be divided into two parts: the foreground (User-Interface) and the background (code). 'Triggers for Change' webtool has not been tested 'live' as an online website because it lacks input of a coding expert; thus, only a fully functional prototype of the webtool has been evaluated by potential users and web-design experts. This means that there are no primary

data that evidence how realistically this design response works; nevertheless, the prototype was very well received throughout the evaluation sessions. Moreover, if the multi-disciplinary studies this webtool is based on are correct, then it can be confidently asserted that 'Triggers for Change' has great potential in delivering benefits to, and minimising the carbon footprint of, the Cornish tourism industry. Consequently, the next step of this design research would be to engage a web design professional in order to bring the website to 'life'.

Additionally, this project recognises the potential for more effective use of imagery in the design outcomes as an area worthy of further work. Futerra (2006) tells us that "a picture speaks a thousand words" trying to convey the idea that a single image can have the power to evoke emotional responses and influence human behaviour in ways that words cannot. This argument is widely recognised (Hall, 2007; Heskett, 2002) and also strongly supported by the author of this thesis. This means that, even though this practice-based design research, for reasons thoroughly explained in section "3.3 Sustainable by Communication Design", uses language (text-based messages) as the principal mechanism for furthering Sustainable Tourism and explores what it linguistically takes to influence human behaviour, nevertheless, it identifies the relationship between words and images (see also "Figure 87. The interrelation of Communication through Form and Communication through Words", section "2.7 Critical reflection: Nudging = sustainability in disguise?", and Words/Form image at page 348) and undoubtly recognises the influential role of colours and images in human communication, and, in turn, argues that the persuasiveness of language-based messages produced by the use of "Triggers for Change" webtool can be enhanced through the appropriate use of images; an area of design research that could be explored through further inquiry.

8.4   This tool needs your help, user.

Triggers for Change website is a collaborative tool. This means that it remains elegantly incomplete without the contribution from its users. The main message the website adopts to invite its users is that 'Triggers for Change' is *a way to learn together*. As Clay Shirky (2008, p.270), writer, teacher and consultant on social networks, explains, the effectiveness of collaborative digital tools "can't be completely determined in advance [...] because it isn't until they have a critical mass of adopters, adopters who take these tools for granted, that their real effects begin to appear." In other words, the central value of 'Triggers for Change' webtool derives from the participation of its users (see also Chapter 6: 'Main points from Personal Interview with CoaST's director on Triggers for Change webtool'). Moreover, "With social tools, the group is the user" which means that "there's no point in being the only user of a social tool. As a result, users of social tools are making two related judgements: Will I like using this tool or

participating in this group? Will enough other people feel as I do to make it take off?" (Shirky, 2008, p.263). Notably, 'Triggers for Change' is a tool that has been designed for the part of the Tourism industry that wants to take an active role in promoting sustainable practices. This design criterion is also endorsed by Shirky (2008, p.265) who argues that:

> "There is no such thing as a generically good tool; there are only tools good for particular jobs. [...] it must help people do something they actually want to do. If you designed a better shovel, people would not rush out to dig more ditches."

Paraphrasing Snyder (2003, p.3), one can argue that typically persuasive communication "has been a tool clenched firmly in the hand of the academic researcher or usability specialist. Like any useful tool, though, its greatest potential can be realised by placing it in the hands of nonspecialists along with instructions for its proper use." That is the main aim of 'Triggers for Change' webtool: to become a new, quick and easy way for people to use the power of persuasive communication for promoting the common good. On that note, being critically reflective here, one could ask: can there be a democratization of persuasion? Can a persuasive technique remain effective if most people are aware of it? For example, in an imaginary scenario, if the author of this research performed interviews with all tourists visiting Cornwall, then they would become aware of the linguistic manipulations behind the signs they encounter in their hotel rooms. Thus, wouldn't the persuasive signs created from 'Triggers for Change' webtool most likely lose (a part of) their influence?

Notably, this once again proves that the question *'how to change tourist's behaviour towards sustainable tourism practices'* does not come with a simple answer. On the contrary, sustainable (touristic) behaviour requires a multi-disciplinary effort that combines a variety of "complex interventions that are needed to shift diverse citizens in diverse parts of the world away from a CO_2 intensive society or adapt to the changes that might accompany the perpetuation of CO_2 intensive industries, infrastructures, and lifestyles." (Selinger and Powys White, 2012, p.29, In: Hall, 2014, p.290). Inevitably, this means that any single research-project on promoting sustainable behaviour could only hope to be *a small part* of the solution, and definitely not *the* answer to challenge of sustainability. Or, as Sussman et al (2012, p.596) argue, "This is not the only solution to climate change, but rather one piece in the puzzle."

8.5 Limitations

This research has described and been built upon the advantages of using language as a medium for influencing human behaviour. Cornwall is a famous holiday destination which means that a large number of tourists visit the area; this, in turn, means that a sustainability

sign in a Cornish hotel room, as Sussman et al (2012, p.596) would argue, "despite being small on an individual level" can create a significant "aggregate impact of the behaviour" of tourists because "opportunities to engage in [sustainable] behaviour arise many times daily for many people".

Nevertheless, it would be erroneous to suggest that this medium is free from limitations. Therefore, some recognised limitations of using text-based signs as an approach for furthering sustainable human behaviour are acknowledged below:

First, the literature on influencing human behaviour widely endorses the use of 'feedback provision' (especially real-time feedback) for effectively encouraging a change in people's behaviour. Even though this design project acknowledges this strategy, nonetheless, it cannot employ feedback to its chosen delivery medium (language-based signs) because, as Sussman et al (2012, p.596) would argue, it would demand "regular input and, therefore, additional effort", making this "type of intervention" really complex for the tourism industry to use.

Based on the evidence, 'behaviour changing' devices should:	
1	Make resource use and resulting waste visible,
2	Be coupled with eco-efficiency improvements,
3	Provide tangible incentives and measurable outcomes,
4	Use predominately positive, rather than negative, reinforcements,
5	Avoid competing with other values,
6	Provide feedback in real-time,
7	Ensure reinforcements are varied in frequency and modality,
8	Adjust to respond to changes in user behaviour,
9	Not compete with, but be supported by, and support, the context of use,
10	Be, as far as possible, ethical in their intent and predicated outcomes.

Figure 374. Lilley's (2009, p.708) suggestions for behaviour change interventions.

Second, based on Sussman et al (2012, p.600), "Visual prompts can only have an effect on viewers if they are noticed". Even if a sign is noticed it can be easily ignored by message-viewers if they decide to do so because, as we explicitly discuss in Chapter 2, a visual prompt (text-based sign) is a type of behaviour-change intervention that gives users full power in decision making. As a result, it "may not be as effective as other means of behavioural interventions (such as physical barriers or modelling)" (Sussman et al, 2012, p.597).

Third, an additional limitation of visual prompts as a medium to influencing human behaviour is that they are subject to the "Fallback effect": "the phenomenon in which newness of a change causes people to react, but then that reaction diminishes as the newness wears off" (Wilhite and Ling, 1995. In: Wood and Newborough, 2003, p.3). In other words, hotel visitors might eventually 'stop seeing' the sign after a while (the mind gets used to it, e.g. like a billboard in the streets).

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Fourth, a limitation of written communication is that it is usually not as persuasive as verbal communication. As Tools of Change (2012b) describe, "we found it to be much more powerful when that message came from an actual person, especially friends and neighbours, rather than a piece of paper on the wall or even the administration".

Figure 375. "Good food takes time": an emotionally intelligent way of requesting restaurant customers to 'be patient with your order' (Gyllynvase beach cafe, Falmouth; photo by author).

Figure 376. Transport for London uses good copywriting skills to ask tube-users to "move down inside the carriage and make room for others" (photo by author).

Behavioural request — Skilful Copywriting → **Appropriated tone**

Behavioural request	Appropriated tone
Be patient with your food order	Good food takes time
Turn lights off	You turned me on but then just walked away
Move down inside the carriage and make room for others	We really don't mean to chide but try to move along inside, so fellow travellers won't have to face an invasion of their personal space.

Figure 377. A call-to-action can be transformed into an appropriate tone of language through skilful copywriting (adapted from examples from literature review).

Last, but not least, one can argue that the power of asking a behavioural request in the appropriate tone of language in order to increase its persuasiveness is undoubtedly a human skill that a good copywriter/advertiser can obtain (see Figures above). 'Triggers for Change' webtool is not a technological replacement of good copywriting skills; 'Triggers for Change' is a collaborative tool with a technological intelligence that could cater for inexperienced users but also supplement industries such as copywriting and/or advertising.

References

4DaysHFX, 2010. John Thackara Visioning Address from 4Days, prt2 of 2. [video online] Available at: <http://www.youtube.com/watch?v=2pOg3X_cfGE> [Accessed 30 January 2012].

A Diamond in Sunlight, 2007. *Reasons to get away: context-sensitive vacation ads.* [blog] Available at: <http://adiamondinsunlight.wordpress.com/2007/07/07/reasons-to-get-away-context-sensitive-vacation-ads/> [Accessed 3 November 2012].

Aakhus, M., 2007. Communication as design. *Communication Monographs,*74(1), pp.112-117.

Adbusters, 2012. *Adbusters – Kale Lasn on CNN for Buy Nothing Day.* [video online] Available at: <www.youtube.com/watch?v=dtNiiatDkGk> [Accessed 23 July 2013].

Adbusters, 2014. Lora Mathis [image] Adbusters, May/June 2014, #113, 22(3).

Adler, R., and Towne, N. 1996. *Looking out/Looking in: Interpersonal Communication.* (8th edition), San Francisco, CA: Rinehart Press.

Ajzen, I., and Fishbein, M., 1980. *Understanding Attitudes and Predicting Social Behaviour.* Englewood Cliffs, NJ, Prentice Hall.

Allcott, H., 2011. Social norms and energy conservation. *Journal of Public Economics,* 95, pp.1082-1095.

Ambrose, G., and Harris, P., 2010. *Basics Design 08: Design Thinking.* AVA Publishing, Lausanne.

Andersen, R. E., Franckowiak, S. C., Snyder, J., Bartlett, S. J., and Fontaine, K. R., 1998. Can inexpensive signs encourage the use of stairs? Results from a community intervention. *Annals of Internal Medicine,* 129, pp. 363-369.

Anderson, S. P., 2010. *Mental Notes.* Poet-painter LLC, Dallas, Texas.

Anderson, S. P., 2011. *Seductive Interaction Design: Creating Playful, Fun and Effective User Experiences.* New Riders, Berkeley, CA.

Anon, 2009. *Flights of fancy. Convenient Lies.* [blog]. Available at: <http://convenientlies.wordpress.com/2009/10/08/flights-of-fancy/> [Accessed 15 Aug 2013].

Archer, B. H., Cooper, C. and Ruhanen, L., 1994. The positive and the negative impacts of tourism. In: W. Theobald, ed. 2004. *Global tourism: the next decade.* 3rd ed. Oxford: Butterworth-Heinemann.

Archer, B., 1995. The Nature of Research. *Co-Design,* January 1995, pp.6-13.

Ariely, D., 2008. *Predictably irrational: The hidden forces that shape our decisions.* HarperCollins.

Ariely, D., 2009. *Dan Ariely asks, are we in control of our decisions? TED Talk.* [video online] Available at: <http://www.youtube.com/watch?v=9X68dm92HVI> [Accessed 16 December 2013].

Ariely, D., 2013. *A beginner's guide to irrational behaviour* [Coursera free online course, 2013]. Available at: <https://www.coursera.org/course/behavioralecon>.

Armstrong, J. S., 2010. *Persuasive advertising: Evidence-based principles.* Palgrave Macmillan, Basingstoke, UK.

Arup, 2006. *Drivers of Change.* [online] Available at: <http://www.driversofchange.com/make/research/doc/> [Accessed 4th April 2013].

Attwood, A.S., Scott-Samuel N.E., Stothart, G., and Munafo, M.R., 2012. Glass Shape influences Consumption Rate for Alcoholic Beverages [online] Available at: <PLoS ONE 7(8): e43007. Doi:10.1371/journal.pone.0043007> [Accessed 26 September 2013].

Austin, J.L., 1962. *How to do things with words.* Oxford: Oxford University Press.

Baca-Motes, K., Brown, A., Gneezy, A., Keenan, E. A., and Nelson, L. D., 2013. Commitment and Behaviour Change: Evidence from the Field. *Journal of Consumer Research*, vol.39, issue 5, pp.1070-1084.

Baines, T. S., H. W. Lightfoot, S. Evans, A. Neely, R. Greenough, J. Peppard, R. Roy, E. Shehab, A. Braganza, A. Tiwari, J. R. Alcock, J. P. Angus, M. Bastl, A. Cousens, P. Irving, M. Johnson, J. Kingston, H. Lockett, V. Martinez, P. Michele, D. Tranfield, I. M. Walton, and H. Wilson, 2007. State of-the-art in product-service systems. *Proceedings of the I MECH E Part B: Journal of Engineering Manufacture*, 221(10), pp.1543-1551.

Balsamiq Mockups, 2014. *Rapid, effective and fun wireframing software tool.* [online] Available at: <https://balsamiq.com> [Accessed 7 February 2014].

Barr, S., Gilg, A. and Shaw, G., 2011. Helping people make better choices: exploring the behaviour change agenda for environmental sustainability. *Applied Geography*, 31, pp.712–720.

Bateson, M., Nettle D. and Roberts, G., 2006. Cues of Being Watched Enhance Cooperation in a Real-World Setting, *Biology Letters*, 2 (June), pp. 412-414.

Joerges, B., 1999. Do Politics Have Artefacts? *Social Studies of Science*, 19(3), pp.411-432.

Bhamra, T. A., Lilley, D. and Tang, T., 2008. *Sustainable use: changing consumer behaviour through product design.* In: Changing the change: design visions, proposals and tools, Turin, Italy.

Bjerregaard, R., 1998. Establishing ecological criteria for the award of the community eco label to dishwashers, *Official Journal of the European Communities*, 4 August.

Blake, J., 1999. Overcoming the 'value–action gap' in environmental policy: tensions between national policy and local experience, *Local Environment*, 4(3), pp.257-278.

Blau E., Wei N., Wenisch A., 1997. Die Reparaturgesellschaft - das Ende der WegwerfeKultur. Wien, 1997.

Blaxter, L., Hughes, C. and Tight, M., 2006. *How to Research*. 3rd ed., Buckingham: Open University Press.

Blessing, L. T. M., and Chakrabarti, A., 2009. *DRM: A Design Research Methodology*. Springer, Berlin.

Borgmann, A., 1995. The depth of design, In: Buchanan, R., and Margolin, V. (Eds.): *Discovering Design – Explorations in Design Studies*, pp. 13-22. The University of Chigaco Press.

Bramwell, B., Henry, I., Jackson, G. and van der Straaten, J., 1996. A framework for understanding sustainable tourism management. In: *Sustainable Tourism Management: Principles and Practice*, ed. W. Bramwell, I. Henry, G. Jackson, A.G. Prat, G. Richards and J. van der Straaten, pp.23-72.

Brehm, J. W., 1966. *A theory of psychological reactance*. New York: Academic Press.

British Tourist Authority, 2013. *Annual Report and Accounts*. [pdf] British Tourist Authority. Available at: <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/246622/0376.pdf > [Accessed 26 September 2013].

Broms, L., 2011. *Sustainable Interactions: Studies in the Design of Energy Awareness Artefacts*. Linkoping: Linkoping University.

Brown, R., 1958. How shall a thing be called? *Psychological Review*, 65, pp.14-21.

Brown, T., 2008. Design thinking. *Harvard Business Review*, 86 (6), pp.84–92.

Brown, T., 2009. Change By Design: how design thinking transforms organizations and inspires innovation. HarperCollins.

Brundtland, H., 1987. *Our Common Future. World Commission on Environment and Development*. Oxford: Oxford University Press.

Buchanan, R., 1995. Rhetoric, humanism, and design. In R. Buchanan and V. Margolin (Eds.), *Discovering design: Explorations in design studies* (pp. 23-68). Chicago: University of Chicago Press.

Budeanu, A., 2007. Sustainable tourist behaviour – A discussion of opportunities for change. *International Journal of Consumer Studies,* 31(5), pp.499-508.

Burgess, R. L., Clark, R. N., and Hendee, J. C., 1971. An experimental analysis of anti-litter procedures. *Journal of Applied Behaviour Analysis,* 4, pp.71-75.

Busch, A., 2005. *The Uncommon Life of Common Objects: Essays on Design and the Everyday.* Metropolis Books.

Business Insider, 2013. Here's The Letter From A Swedish Professor Nominating Edward Snowden For The Nobel Peace Prize. [online] Available at: <http://www.businessinsider.com/stefan-svallfors-nominates-edward-snowden-for-nobel-peace-prize-2013-7> [Accessed 9 May 2014].

Butler, W. R., 1999. Sustainable tourism: A state-of-the-art review. *Tourism Geographies,* 1(1), pp.7-25.

Cabinet Office and Institute for Government, 2010. *MINDSPACE. Influencing Behaviour through Public Policy.* London: Cabinet Office.

Campbell, C., 1994. Consuming goods and the good of consuming. *Critical Review,* 8(4), pp.503-520.

Carpenter, C. J., 2013. A meta-analysis of the effectiveness of the "But You are free" compliance-gaining technique. *Communication Studies,* 64(1), pp.6-17.

Carr, N., 2010. *The shallows: What the internet is doing to our brains.* New York: W.W. North & Company.

Carroll, J. M. and Rosson, M. B., 1992. Getting around the task-artifact cycle: How to make claims and design by scenario, ACM, *Transactions on Information Systems,* 10(2), pp.181-212.

Ceschin, F., 2011. *The societal embedding of sustainable Product-Service Systems.* Editore: Greenleaf Publishing, Note: To be published. Included in: Vezzoli C. et al (eds.) Product-Service System design for sustainability.

Chapman, J., 2005. *Emotionally durable design: Objects, experiences and empathy.* London: Earthscan.

Chilton, P., Crompton, T., Kasser, T., Maio, G., and Nolan, A., 2012. *Communicating bigger-than-self problems to extrinsically-oriented audiences. Common Cause Research.* [pdf] Available at: <http://valuesandframes.org/download/reports/Extrinsically-oriented%20audiences.pdf> [Accessed 9 February 2013].

Choy, D., 2008. *What exactly is touchpoint?* [online] Available at: <http://www.customerthink.com/blog/what_exactly_touchpoint > [Accessed 10 November 2011].

Cialdini, R. B, Reno, R. R., and Kallgren, C. A., 1990. A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology,* 58, pp.1015-1026.

Cialdini, R. B., 2001. Harnessing the science of persuasion. *Harvard Business Review,* 79, pp.72-79.

Cialdini, R., 2003. Crafting normative messages to protect the environment. *Current Directions in Psychological Science,* 12, pp105-109.

Cialdini, R., 2007. *Influence: The Psychology of Persuasion.* HarperBusiness.

Cialdini, R., and Schultz, W., 2004. *Understanding and motivating conservation via social norms.* Technical report, William and Flora Hewlett Foundation.

Clarke, M., 2007.*Verbalising the Visual. Translating art and design into words.* Lausanne: AVA Publishing.

Clatworthy, S., 2011. Service innovation through touch-points: Development of an innovation toolkit for the first stages of new service development. *International Journal of Design,* 5(2), pp.15-28.

Clune, S., 2010. Design and behavioural change. *Journal of design strategies,* 4(1), pp.68-75.

CNN, 2008. *The International Ecotourism Society statement.* [online] Available at: <http://edition.cnn.com/2008/WORLD/asiapcf/07/27/ies.statement/index.html> [Accessed 13 January 2012].

Cohen, E., 1972. Towards a sociology of international tourism. *Social research,* 39, pp.164-182.

Cohen, S., Higham, J., Gossling, S., and Peeters, P., 2014. *Understanding and Governing Sustainable Tourism Mobility: Psychological and Behavioural Approaches.* Routledge.
Cohen, S., Higham, J., Peeters, P., and Gossling, S., 2014. Why tourism mobility behaviours must change. In: Cohen, S., Higham, J., Gossling, S., and Peeters, P., ed. 2014. *Understanding and Governing Sustainable Tourism Mobility: Psychological and Behavioural Approaches.* Routledge. Ch. 1.

Collins, J., Thomas, G., Willis, R. and Wilsdon, J., 2003. *Carrots, Sticks and Sermons: Influencing public behaviour for environmental goals.* [online] Demos, London. Available at: < http://www.green-alliance.org.uk/uploadedFiles/Publications/CarrotsSticksSermons.pdf> [Accessed 25 April 2012].

Coloribus, Creative Advertising Archive, 2007. *Western Riverside Recycling: "Recycle Bulb" Print Ad by Chick Smith Trott (CST).* [image online] Available at: <http://www.coloribus.com/adsarchive/prints/western-riverside-recycling-recycle-bulb-9832505/> [Accessed 8 April 2013].

Corbin, J. M., and Strauss, A., 1990. Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology,* 13(1), pp.3-21.

Core77, 2008. *Design as Advocate for Social Change: The Mayan Project.* [online] Available at:<http://www.core77.com/blog/object_culture/design_as_advocate_for_social_change_the_mayan_project_12068.asp> [Accessed 10 Oct 2012].

Corner, A., 2012. *Promoting Sustainable Behaviour: A Practical Guide to What Works.* England: Sedition Publishing Ltd.

Cornwall Council, 2009. *Managing development and the environment responsibly: Focus on sustainable use of resources.* [pdf] Cornwall: Community Intelligence Team. Available at: <http://www.cornwall.gov.uk/default.aspx?page=22743> [Accessed 15 Nov 2011].

Cornwall Council, 2010. *Cornwall environment evidence report.* [pdf] Available at: < https://www.cornwall.gov.uk/media/3627144/DraftEnvironmentEvidenceReport_March2010.pdf > [Accessed 1 April 2011].

Cornwall Council, 2011a. *Tourism and Travel.* [online] (updated 04/11/2011) Available at: <http://www.cornwall.gov.uk/default.aspx?page=3969> [Accessed 2 December 2011].

Cornwall Council, 2011b. Recycling, Rubbish and Waste. [online] Available at: <http://cornwall.gov.uk/default.aspx?page=2921> [Accessed 20 October 2011].

Cornwall Council, 2011c. *Cornwall environment evidence report.* [pdf] Cornwall: Community Intelligence, Chief Executives Department. Available at: <http://www.cornwall.gov.uk/default.aspx?page=24548> [Accessed at 21 November 2011].

Cornwall Council, 2011d. *Cornwall 2011 - Demographic evidence base.* [pdf]] Cornwall: Community Intelligence, Chief Executives Department. Available at: <http://www.cornwall.gov.uk/default.aspx?page=23772> [Accessed 15 November 2011].

Cornwall Council, 2011e. *Data and Research.* [online] Available at: <http://www.cornwall.gov.uk/default.aspx?page=2035> [Accessed 21 October 2011]

Cornwall Council, 2011f. *Assessing Cornwall's Performance: Results of the Place Survey 2008/09 for Cornwall Council and Partners.* [pdf] Available at: <http://www.cornwall.gov.uk/default.aspx?page=22133> [Accessed 15 January 2012].

Cornwall Council, 2011g. *Sustainable Development.* [online] Available at: <http://www.cornwall.gov.uk/default.aspx?page=2972> [Accessed 20 November 2011]

Cornwall Council, 2011h. *Connecting Cornwall: 2030 Strategy. Moving Towards a Green Peninsula.* [pdf] Available at: <http://www.cornwall.gov.uk/default.aspx?page=24537> [Accessed 1 June 2012].

Cornwall Sustainable Tourism Project (CoaST), 2011a. *One Planet Tourism* [online] Available at: <http://www.coastproject.co.uk/> [Accessed 15 November 2011].

Cornwall Sustainable Tourism Project (CoaST), 2011b. *What is the purpose of tourism?* [online] Available at: <http://www.coastproject.co.uk/forum/457> [Accessed 7 November 2011].

Cornwall Sustainable Tourism Project (CoaST), 2011c. *Coast consultancy services.* [online] Available at: <www.coastproject.co.uk/about/coastconsultancyservices> [Accessed 13 June 2012].

Cornwall Sustainable Tourism Project (CoaST), 2014a. *Climate change impacts on tourism.* [online] Available at: <www.coastproject.co.uk/search/climatechangeimpactsontourism> [Accessed 4 August 2014].

Cornwall Sustainable Tourism Project (CoaST), 2014b. *Climate changed.* [online] Available at: <www.coastproject.co.uk/search/climatechanged> [Accessed 4 August 2014].

Countries Emissions Underscore Urgent Need for Political Action on Climate Change at Poznan Meeting; Press Release. [online] Available at: <http://unfccc.int/files/press/news_room/press_releases_and_advisories/application/pdf/081117_ghg_press_release.pdf> [Accessed on 2 November 2011].

Crompton, T., 2010. *Common Cause: The Case for Working with our Cultural Values.* London: World Wildlife Fund for Nature. [pdf] Available at: <http://assets.wwf.org.uk/downloads/common_cause_report.pdf > [Accessed 9 February 2013].

Crompton, T., 2013. *The Conscience Industry.* TEDxExeter Talk. [video online] Available at: <http://tedxtalks.ted.com/video/The-Conscience-Industry-Tom-Cro;TEDxExeter> [Accessed 20 July 2013].

Cross, N., 1999. Design Research: A Disciplined Conversation. *Design Issues,* 15(2), pp.5-10.

Cross, N., 2001. Designerly Ways of Knowing: Design Discipline versus Design Science. *Design Issues,* 17, pp.49-55.

Crotty, M., 1998. *The Foundations of Social Research.* Sage Publications, Thousand Oaks, CA.

Csikszentmihalyi, M., 1991. *Flow: the Psychology of Optimal Experience.* Harper Perennial, New York, NY.

Csikszentmihalyi, M., 2000. The costs and benefits of consuming. *Journal of Consumer Research,* 27(2), pp. 267-272.

Darby, S., 2001. Making it obvious: designing feedback into energy consumption. In: *Proceedings of Second International Conference on Energy Efficiency in Household Appliances and Lighting,* Italian Association of Energy Economists/EC-SAVE programme.

Davies, G., and Dwyer, C., 2007. Qualitative methods: are you enchanted or are you alienated? *Progress in Human Geography,* 31, pp.257-66.

Day, C., 2002. *Spirit and place.* Oxford: Architectural Press.

de Kort, Y.A., McCalley, L.T., and Midden, C.J.H., 2008. Persuasive Trash Cans: Activation of Littering Norms by Design. *Environment and Behavior,* In Press.

Denzin, M. B., and Lincoln, Y. S., 2003. *The Landscape of Qualitative Research: Theories and Issues,* 2nd ed., Thousand Oaks, CA: Sage.

Department for Environment, Food and Rural Affairs (DEFRA), 2005. *Changing behaviour through policy making.* [pdf] Available online at: <http://archive.defra.gov.uk/sustainable/government/documents/change-behaviour model.pdf> [Accessed 10 March 2012].

Department for Environment, Food and Rural Affairs (DEFRA), 2006. *An environmental behaviours strategy for Defra.* [pdf] Available at: <http://archive.defra.gov.uk/evidence/social/behaviour/documents/behaviours-1206-scoping.pdf> [Accessed 15 November 2011].

Design Council, 2013. *Changing behaviour by design: Combining behavioural science with design-thinking to help organisations tackle big social issues.* [pdf] Available at: <https://www.designcouncil.org.uk/sites/default/files/asset/document/Changing%20behaviour%20by%20design.pdf> [Accessed 23 October 2014].

Design Online, 2012a. *How might we design a model of sustainable eco-tourism?* [online] Available at: <http://designonline.org.au/content/how-might-we-design-a-model-of-sustainable-eco-tourism/> [Accessed 1 May 2013].

Design Online, 2012b. *I Am Not A Tourist.* [online] Available at: <http://designonline.org.au/content/i-am-not-a-tourist/> [Accessed 1 May 2013].

Design Thinkers, 2010. *Save Your Energy.* [image online]. Available at: <http://www.design-thinkers.co.uk/save-your-energy/> [Accessed 3 November 2013].

Desmond, J., 2003. *Consuming Behaviour.* New York, Palgrave.

Deterding, S., 2009. *Persuasive Design: The Fine Art of Separating People from their Bad Behaviours.* [online] Available at: <http://codingconduct.cc/Persuasive-Design> [Accessed Aug 2012].

Deterding, S., 2011. *What your designs say about you.* TEDxHogeschoolUtrecht Talk. [video online] Available at: <www.ted.com/talks/sebastian_deterding_what_your_designs_say_about_you> [Accessed 19 November 2012].

Deterding, S., 2012. Persuasive Design. In: Wiedemann C. and Zehle, S., ed., 2012. *Depletion Design - A Glossary of Network Ecologies.* Amsterdam: Institute of Network Cultures.

Devine-Wright, P., 2004. *Towards Zero-Carbon: Citizenship, Responsibility and the Public Acceptability of Sustainable Energy Technologies.* Towards Zero-Carbon – Sustainability in Practice Conference, London, 21st September 2004.

Dijksterhuis and Bargh, 2001. The perception-behaviour expressway: Automatic effects of social perception on social behaviour. In: Zanna (ed.) *Advances in experimental social psychology,* 33, pp.1-40.

Dolan, P., Hallsworth, M., Halpern, D., King, D., Metcalfe, R., and Vlaev, I., 2012. Influencing behaviour: the mindspace way. *Journal of Economic Psychology,* 33(1), pp.264-277.

Dolan, P., Hallsworth, M., Halpern, D., King, D., and Vlaev, I., 2010. *Mindspace: Influencing Behaviour Through Public Policy.* London: The Institute for Government and Cabinet Office.

Doors of Perception, 2013. *Green Tourism: Why it failed and how it can succeed.* [online] Available at: < http://www.doorsofperception.com/development-design/green-tourism-why-it-failed-and-how-it-can-succeed%E2%80%A8/> [Accessed 29 July 2013].

DTI, 2002. *Energy Consumption in the UK.* Energy Publications, Department of Trade and Industry, London, UK.

Duke Sustainability, n.d. *Sustainability Signs.* Available at: <http://sustainability.duke.edu/campus_initiatives/buildings/Signs.html> [Accessed 7 April 2013].

Duncan, G. S., and Martin, S. R., 2002. Comparing the effectiveness of interpretive and sanction messages for influencing wilderness visitors' intended behaviour. *International Journal of Wilderness,* 8(2), 20 – 25.

Dunlap, R. E., Grieneeks, J. K., & Rokeach, M., 1983. Human values and pro-environmental behaviour. In: W.D. Conn (Ed.), *Energy and material resources: Attitudes, values, and public policy.* Boulder, CO: Westview.

Dunne, A., 2000. *Hertzian Tales: Electronic Products, Aesthetic Experience & Critical Design.* Art Books.

Dunne, A., and Gaver, W., 1997. *The Pillow: Artist-designers in the digital age.* Proc. of CHI' 97 Companion (Atlanta), ACM Press.

Dunne, A., and Raby, F., 2001. *Design Noir: The Secret Life of Electronic Objects.* Birkhauser.

Dunne, A., and Raby, F., 2009. *What if... .* [online] Available at: <http://www.dunneandraby.co.uk/content/projects/512/0> [Accessed 8 August 2011]

Durantini, Albarracín, Mitchell, Earl and Gillette, 2006. Conceptualizing the influence of social agents of behaviour change: A meta-analysis of the effectiveness of HIV-prevention interventionists for different groups. *Psychological Bulletin,* 132, pp.212–248.

Durdan, C. A., Reeder, G. D., and Hecht, P. R., 1985. Litter in a university cafeteria: Demographic data and the use of prompts as an intervention strategy. *Environment and Behaviour,* 17, pp.387-404.

Durning, P., 1992. *The dubious rewards of consumption*. Originally titled: The dubious rewards of consumerism. as Chapter 3 of: How Much is Enough?, Worldwatch Institute, Boston, MA, pp.37-48.

Eco, U.,1984. *The name of the rose*. Boston, MA: G. K. Hall

Edahiro, J., 2004. How to develop yourself to become an effective change agent. In: *Sustainability Intensive: Tools and Methods for Accelerated Implementation*, Imperial College, London.

ElectricPutty, 2013. [image online] Available at: <http://www.electricputty.co.uk/content/blog/archive/2013/06/> [Accessed 6 July 2013].

Elias, E.W.A., Dekoninck, E.A. and Culley, S.J.C., 2008. *Assessing user behaviour for changes in the design of energy using domestic products*. IEEE International Symposium.

Elliot, J., 1991. *Action Research for Educational Change*. Open University Press.

Energy Star, 2010. *Hospitality Benchmarking Fact Sheet*. [pdf] Available at: www.energystar.gov/ia/business/hospitality/Benchmarking_Fact_Sheet.pdf> [Accessed 24 May 2013]

Evans, L., Maio, G. R., Corner, A., Hodgetts, C. J., Hahn, U., and Ahmed, S., 2012. *Self-interest and proenvironmental behaviour. Nature Climate Change*. [online] Available at: <http://www.nature.com/nclimate/journal/vaop/ncurrent/full/nclimate1662.html?WT.mc_id=FBK_NatureClimate/> [Accessed 28 February 2013].

Fabricant, R., 2009. *Behaviour is our medium*. [video online] Available at: <http://vimeo.com/3730382> [Accessed 1 September 2012].

Falmouth University, 2014. *Cultural Tourism Management BA(Hons)*. [online] Available at: <http://www.falmouth.ac.uk/culturaltourismmanagement> [Accessed 13 February 2014].

FastCompany, 2011. *With Bedsider, IDEO Aims To Curb Unplanned Pregnancy Using Videos, Smartphones, And Sass*. [online] Available at: <http://www.fastcodesign.com/1665363/with-bedsider-ideo-aims-to-curb-unplanned-pregnancy-using-videos-smartphones-and-sass> [Accessed 5 January 2012].

Ferguson, A., 1999. The logical foundation of ecological footprints. *Environment, Development and Sustainability*, 1, pp.149-156.

Fishbein, M., and Ajzen, I., 1975. Belief, Attitude, Intention, and Behaviour: an introduction to theory and research (Reading, MA, Addison-Wesley).

Fleming, M. L., and Levie, W. H., 1993. *Instructional message design: Principles from the behavioural and cognitive sciences* (2nd ed.). Englewood Cliffs, NJ: Educational Technology Publications.

Fogg, B. J., 2003. *Persuasive Technology: Using Computers to Change What We Think and Do*. Morgan Kaufmann, San Francisco.

Fondation Nicolas Hulot, 2015. *Pour la Nature et l'Homme*. [online] Available at: <www.fondation-nicolas-hulot.org> [Accessed 13 February 2013].

Fuad-Luke, A., 2009. *Design activism: beautiful strangeness for a sustainable world*. Earthscan, London.

Fudge, S. and Peters, M., 2011. Behaviour Change in the UK Climate Debate: An Assessment of Responsibility, Agency and Political Dimensions. *Sustainability*, 3(6), pp. 789-808.

Futerra Sustainability Communications, 2006. *New Rules: New Game – communications tactics for climate change*. [pdf] Available at: http://www.futerra.co.uk/wp-content/uploads/2013/02/The-New-Rules-2013-edit.pdf> [Accessed 1/1/2014].

Futerra, 2007. *Words that Sell*. [pdf online] Available at: <http://www.futerra.co.uk/downloads/Words-That-Sell.pdf> [Accessed 5 December 2011]

Futerra, 2009. *More aviation greenwash*. [online] Available at: <www.futerra.co.uk/blog/more-aviation-greenwash> [Accessed 3 November 2014].

Futerra, 2012. *David Willans – Simple. Effective. Beautiful.* [online] Available at: <http://www.futerra.co.uk/blog/simple-effective-beautiful> [Accessed 19 March 2013].

Garner, R., 2005. Post-It® Note Persuasion: A Sticky Influence. *Journal of Consumer Psychology*, 15(3), pp.230-237.

Gezici, F., 2006. Components of sustainability: two cases from Turkey. *Annals of Tourism Research*, 33 (2), pp.442-455.

Gibbs, G., 2007. *Analysing Qualitative Data.* London: SAGE.

Global Sustainable Tourism Council (GSTC), 2011a. *Tourism is one of the fastest growing industries and a strong contributor to sustainable development and poverty alleviation.* [online] Available at: <http://new.gstcouncil.org/about/learn-about-the-gstc> [Accessed 7 November 2011].

Global Sustainable Tourism Council (GSTC), 2011b. *GSTC Criteria.* [online] Available at: <http://new.gstcouncil.org/resource-center/gstc-criteria> [Accessed 7 November 2011].

Goedkoop, M. J., C. J. G. van Halen, H. R. M. te Riele, and P. J. M. Rommens., 1999. *Product service systems: Ecological and economic basics.* Amersfoort, The Netherlands: PRe Consultants.

Goldstein, N. J., Martin, S. J., and Cialdini, R. B., 2008.*Yes!: 50 scientifically proven ways to be persuasive.* New York: Simon and Schuster

Goldstein, Noah J., Robert B. Cialdini, and Vladas Griskevicius, 2008a. A Room with a Viewpoint: Using Social Norms to Motivate Environmental Conservation in Hotels. *Journal of Consumer Research*, 35 (3), 472-82.

Goldstein, Noah J., Robert B. Cialdini, and Vladas Griskevicius, 2008c. *A Room with a Viewpoint.* [pdf] Graduate School of Business: Stanford University. Available at: <https://faculty-gsb.stanford.edu/aaker/documents/goldsteincialdinigriskevicius.pdf> [Accessed 19 May 2013].

Gonzales, M.H., Aronson, E., and Costanzo, M.A., 1988. Using social cognition and persuasion to promote energy conservation: A quasi-experiment. *Journal of Applied Social Psychology*, 18, pp.1049-1066.

Goodwin, H., 2011. *There is a major difference between our approach and that of the GSTC, it is a difference of principle.* [online] Available at: <http://haroldgoodwin.blogware.com/blog/_archives/2011/10/26/4926688.html> [Accessed 7 November 2011].

Goodwin, H., and Francis, J., 2003. Ethical and responsible tourism: Consumer trends in the UK. *Journal of Vacation Marketing*, 9(3), pp.271-284.

Great-Ads, 2011. *A Collection of Fine Ad Campaigns.* [image online] Available at: <http://great-ads.blogspot.co.uk/2011/03/check-out-brain-on-einsteins-mercedes.html> [Accessed 2 September 2014].

Griskevicius, V., Cialdini, R.B., Goldstein, N.J., 2008. Social norms: an underestimated and underemployed lever for managing climate change. *International Journal of Sustainability Communication*, 3, pp.5-13.

Grist, 2010. *Rejecting free savings out of sheer dumbness: common!* [online] Available at: <http://grist.org/article/2010-11-17-rejecting-free-savings-out-of-sheer-dumbness-common/> [Accessed 11 February 2013].

Guardian, 2010. *Surfers Against Sewage: The muck stops here.* [online] Available at: <http://www.theguardian.com/environment/2010/jun/13/surfers-against-sewage-pollution-marine> [Accessed 10 November 2011].

Guardian, 2011. *How the science of behaviour change can help with sustainability.* [online] Available at: <www.theguardian.com/sustainable-business/behaviour-change-sustainability-tips> [Accessed 12 May 2013].

Guardian, 2013a. *Communicating sustainability: lessons from public health.* [online] Available at: <www.theguardian.com/sustainable-business/communicating-sustainability-behaviour-change-public-health> [Accessed 12 May 2013].

Guardian, 2013b. *Design for Sustainability: making green behaviour easy.* [online] Available at: <www.theguardian.com/sustainable-business/design-sustainability-green-behaviour> [Accessed 12 May 2013].

Guardian, 2013c. *US to destroy ivory stocks in effort to stop illegal elephant poaching.* [online] Available at: <www.theguardian.com/environment/2013/sep/09/us-ivory-stocks-illegal-elephant-poaching> [Accessed 10 September 2013].

Guardian, 2013d. *Morality is missing from the debate about sustainable behaviour.* [online] Available at: <http://www.theguardian.com/sustainable-business/social-justice-behaviour-climate-change> [Accessed 2 August 2013].

Guardian, 2013e. *Understanding human behaviour: taking a more complex approach.* [online] Available at: <www.theguardian.com/sustainable-business/understanding-human-behaviour-complex-approach> [Accessed 5 September 2013].

Guardian, 2014a. *Encouraging Brazil's emerging middle-class to buy sustainably.* [online] Available at: <http://www.theguardian.com/sustainable-business/2014/aug/06/encouraging-brazil-emerging-middle-class-buy-sustainably> [Accessed 16 October 2014].

Guardian, 2014b. *Google claims driveless car could transform mobility and improve safety.* [online] Available at: <http://www.theguardian.com/technology/2014/may/28/google-driveless-car-mobility-safety-taxi-drivers> [Accessed 30 May 2014].

Guba, E., 1990. *The Paradigm Dialogue.* Newbury Park, CA: Sage.

Guegen, N., and Pascual, A., 2005. Improving the response rate to a street survey: An evaluation ofthe "but you are free to accept or refuse" technique. *The Psychological Record,* 55, 297–303.Retrieved from http://opensiuc.lib.siu.edu/tpr/vol55/iss2.

Haidt, J., 2006. *The Happiness Hypothesis: Finding Modern Truth in Ancient Wisdom.* New York: Basic Books.

Hall, M., 2014. Framing behavioural approaches to understanding and governing sustainable tourism consumption: Beyond neoliberalism, "nudging" and "green growth"? In: Cohen, S., Higham, J., Gossling, S., and Peeters, P., ed. 2014. *Understanding and Governing Sustainable Tourism Mobility: Psychological and Behavioural Approaches.* Routledge.

Hall, S., 2007. *This Means This, This Means That. A User's Guide to Semiotics.* London: Laurence King publishing,

Hallnäs, L., & Redstrom, J., 2001. Slow Technology – Designing for Reflection. *Personal & Ubiquitous Computing,* 5(3).

Harrison, D., 1996. Sustainability and tourism: Reflections in a muddy pool. In Sustainable Tourism in Islands and Small States: Issues and Policies, Vol. 1,ed. L. Briguglio, B. Archer, J. Jafari and G. Wall, pp. 69-89. London: Cassell. In: Butler, W. R., 1999. *Sustainable tourism: A state-of-the-art review.* Tourism Geographies, 1(1), pp.7-25.

Hausman, D.M., and Welch, B., 2010. Debate: To Nudge or Not to Nudge. *The Journal of Political Philosophy,* 18(1), pp.123-136.

Heidegger, M., 1977. The Question Concerning Technology, W. Lovitt, trans. New York.

Hernández Pardo R.J., Bhamra T., and Bhamra R., 2012. Sustainable Product Service Systems in Small and Medium Enterprises (SMEs): Opportunities in the Leather Manufacturing Industry. *Sustainability.* 4(2), pp.175-192.

Heskett, J. 2002.*Toothpicks and Logos: Design in Everyday Life.* Oxford University Press, Oxford, U.K.

Hewett, T., Baecker, R., Card, S., Carey, T., Gasen, J., Mantei, M., Perlman, G., Strong, G., and Verplank,W., 1992. ACM SIHCHI curricula for human–computer interaction. Association for computing machinery. New York, NY: ACM.

Hines, J.M., Hungerford, H.R. and Tomera, A.N., 1986–87. Analysis and synthesis of research on responsible pro-environmental behavior: a meta-analysis. *The Journal of Environmental Education,* 18(2), pp.1-8.

Holland, Hendriks and Aarts, 2005. Smells like clean spirit: Nonconscious effects of scent on cognition and behavior. *Psychological Science*, 16, pp.689–693.

Höök, K., Stahl, A., Sundström, P., and Laaksolahti, J., 2008. Interactional empowerment. In: *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp. 647–656.

Hornby, A. S., 2005. *Oxford Advanced Learner's Dictionary of Current English*. Oxford: Oxford University Press. 7th edition.

Howard, G., 2007. *On the origin of touchpoints*. [online] Available at: <http://designforservice.wordpress.com/2007/11/07/on-the-origin-of-touchpoints/> [Accessed 03 November 2011].
Hunter, C., 1995. On the need to re-conceptualize sustainable tourism development. *Journal of Sustainable Tourism*, 3(3), pp.155-165.

Hunter, C., 1997. Sustainable Tourism as an Adaptive Paradigm. *Annals of Tourism Research*, 24(4), pp.850-867.

Hutchinson, W., 2006. Laughter and Humour as an Influence Agent in Contemporary Information Operations. In: *Proceedings of the 5th European Conference on i-Warfare and Security: ECIW 2006*, edited by Remenyi, D.

IDEO, 2008. *IDEO human centred design toolkit field guide* (2nd ed.) [pdf online] Available at: <http://www.ideo.com/images/uploads/work/case-studies/pdfs/IDEO_HCD_FieldGuide_for_download.pdf> [Accessed 2 January 2012].

IDEO, 2003. *IDEO Method Cards: 51 Ways to Inspire Design*. IDEO, Palo Alto, CA.

IDEO, 2009. *Bedsider for The National Campaign to Prevent Teen and Unplanned Pregnancy*. [online] Available at: <http://www.ideo.com/work/bedsider> [Accessed 9 December 2012].

IDEO, 2009. *IDEO Human-Centred Design Toolkit*. IDEO, Palo Alto, CA.

IDEO, 2011a. *Change+: Jennifer Maer, This is what sex sounds like*. [video online] Available at: <https://vimeo.com/14251640> [Accessed 15 March 2012].

IDEO, 2011b. *Change+: Holly Kretschmar, Taking the Change Out of Behaviour Change*. [video online] Available at: < http://vimeo.com/14251599> [Accessed 15 March 2012].

IDEO, 2015. *About IDEO*. [online] Available at: <http://www.ideo.com/about/> [Accessed 15 March 2012].

Interactive Institute, 2012. *AWARE*. [online] Available at: <https://www.tii.se/projects/aware> [Accessed 5 October 2012]

Intergovernmental Panel on Climate Change (IPCC), 2007. Climate change 2007: The physical science basis. Agenda 6, no. 07:333.

Intille, S. S., 2003. Ubiquitous Computing Technology for Just-in-Time Motivation of Behaviour Change (Position Paper), in *Proceedings of the UbiHealth Workshop' 2003*.

Jackson, T., 2004. *Motivating Sustainable Consumption: A Review of Evidence on Consumer Behaviour and Behavioural Change*. London: Sustainable Development Research Network.

Jackson, T., 2006. Consuming Paradise? Towards a Social and Cultural Psychology of Sustainable Consumption. In: T. Jackson (ed.) *the Earthscan Reader in Sustainable Consumption*, pp.365 -397. London: Earthscan.

James, R., 2010. *Promoting Sustainable Behaviour: A guide to successful communication*. [pdf] Available at: <http://sustainability.berkeley.edu/os/pages/talkinglouder/docs/Promoting_Sustain_Behavior_Primer.pdf> [Accessed 10 April 2013].

Jelsma, J. 2006. Designing 'Moralized' Products: Theory and Practice. In: Verbeek, P.P and Slob, A. (eds.) *User behaviour and technology development*, pp.221-231. Springer.

Johnson, E. J., and Goldstein, D. G,. 2003. Do defaults save lives? *Science*, 302 pp.1338-1339.

Jones, J.C., 1992. *Design methods*, 2nd edition. John Wiley & Sons.

Josh Blackman, 2012. *Hotel Behavioural Economics*. [image online] Available at: <http://joshblackman.com/blog/2012/11/20/hotel-behavioral-economics/> [Accessed 2 December 2012].

Junginger, S., and Sangiorgi, D., 2009. *Service design and organizational change: Bridging the gap between rigour and relevance*. Paper presented at 3rd IASDR Conference on Design Research, Seoul, Korea.

Kahneman D, Tversky A., 2000. *Choices, values, and frames*. Cambridge University Press, New York.

Kahneman, D. and Frederick, S., 2002. *In Heuristics and Biases: The Psychology of Intuitive Judgement* (Gilovich, T. et al., eds), Cambridge University Press, pp.49–81.

Kahneman, D. et al., 1982. *Judgment Under Uncertainty: Heuristics and Biases*, Cambridge University Press

Kahneman, D., 2003. *A Psychological Perspective on Economics*, AEA Papers and Proceedings, 93 (2), pp.162-174.

Kahneman, D., 2011. *Thinking, fast and slow*. New York, NY: Farrar, Straus and Giroux.

Kahneman, D., and Tversky, A., 1979. Prospect theory: an analysis of decision under risk. *Econometrica, 47*, pp.263-291.

Kaiser, F.G., Wolfing, S. and Fuhrer, U., 1999. Environmental attitude and ecological behaviour. *Journal of Environmental Psychology*, 19, pp.1–19.

Kaplan, S., 2000. Human nature and environmentally responsible behaviour. *Journal of Social Issues*, 56(3), pp.491-508.

Kaptein, M., De Ruyter, B., Markopoulos, P., Aarts, E., 2012. *Adaptive persuasive systems: a study of tailored persuasive text messages to reduce snacking*. ACM Trans Interact Intell Syst (TiiS) 2(2):10–1/25.

Kasser, T., 2002. *The high price of materialism*. London: MIT Press.

Kazdin, A. E., 2009. Psychological science's contributions to a sustainable environment: Extending our reach to a grand challenge of society. *American Psychologist, 64*, pp.339-356. doi:10.1037/a0015685

Kettle, K. and Haubl, G., 2011. The signature effect: how signing one's name influences consumption-related behaviour, *Journal of Consumer Research*, 38(3), pp.474-489.

Klöckner, A.C. and Blöbaum, A., 2010. A comprehensive action determination model: Toward a broader understanding of ecological behaviour using the example of travel mode choice. *Journal of Environmental Psychology*, 30, pp.574-586.

Knowles, B., 2013. Re-imagining persuasion: designing for self-transcendence. In: *Proceedings of CHI EA' 13, ACM*, pp.2713-2718.

Kollmuss, A., and Agyeman, J., 2002. Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behaviour? *Environmental Education Research*, 8(3), pp.239-260.

Kretchmar H., and Wustrack, G., 2015. *Re-framing Behaviour: Sustainable change requires the right mental model*. [online] Available at: <patterns.ideo.com/issue/reframing_behavior> [Accessed 5 May 2012].

Krippendorf, J., 1987. The Holiday Makers. Butterworth Heinemann, Oxford. In: Goodwin, H. and Francis, J., 2003. Ethical and Responsible Tourism: Consumer Trends in the UK. *Journal of Vacation Marketing*, 9, p.272.

Krishnamurti, J., 1969. *Freedom from the Known*. Ed. Mary Luytens. San Francisco: HarperCollins.

Kronrod, A., Grinstein, A., and Wathieu, L., 2012. Go green! Should environmental messages be so assertive? *Journal of Marketing*, 76 (1), pp.95-102.

Lakoff, G., 2004. *Don't think of an elephant! Know your values and frame the debate*. Vermont: Chelsea Green Publishing.

Lane, B., 2008. *Sustainable Development and Sustainable Tourism: Business, the community and the environment*. [doc] Available online at: <www.ecu.edu/cs-acad/sustainabletourism/upload/LaneLecture10 02 08.doc> [Accessed 25 March 2012].

Lanier, J., 2010. *You Are Not a Gadget: A Manifesto*. London: Allen Lane.

Laskey, A., 2013. *How Behavioural Science can lower your energy bill*. TED Talk. [video online] Available at: <http://www.ted.com/talks/alex_laskey_how_behavioral_science_can_lower_your_energy_bill> [Accessed 7 March 2013].

Laurel, B., 2003. *Design Research: Methods and Perspectives*. MIT Press, Cambridge, MA.

LeDoux, J. E., 1989. Cognitive-emotional interactions in the brain. *Cognition and Emotion*, 3, pp.267-289. Lidman, K., and Renström, S., 2011. *How to Design for Sustainable Behaviour? A review of design strategies and an empirical study of four product concepts*. Master's thesis, Chalmers University of Technology, Göteborg.

Lilley, D., and Lofthouse, V., 2009. Sustainable Design Education - Considering Design for Behavioural Change, *Engineering Education: Journal of the Higher Education Academy Engineering Subject Centre*, North America, 4(1).

Lilley, D., 2007. *Designing for behavioural change: reducing the social impacts of product use through design*. Doctoral thesis, Department of Design and Technology, Loughborough University, Loughborough, UK.

Lilley, D., 2009. Design for sustainable behaviour: strategies and perceptions. [online] *Design Studies*. Available at: <http://dx.doi.org/10.1016/j.destud.2009.05.001>.

Lilley, D., 2011. *The Loughborough Model*. [online] Available at: <http://homepages.lboro.ac.uk/~cddl/doing_it.htm> [Accessed August 2012].

Lindsey Fischbach Productions, 2011. *Wasting Water is Weird*. [image online] Available at: <http://www.lindseyfischbach.com/?portfolio=wasting-water-is-weird> [Accessed 5 January 2012].

Linowski Interaction Design, 2014a. *Get the Interactive Sketching Notation*. [online] Available at: <www.linowski.ca/sketching.php/> [Accessed 9 June 2014].

LiveWork, 2008a. *Definition of service design*. [online] Available at: <http://servicedesign.org/glossary/service_design/> [Accessed 19 January 2012].

LiveWork, 2008b. *Definition of touch-points*. [online] Available at: <http://servicedesign.org/glossary/touch_points/> [Accessed 19 January 2012].

Lockton, D., Harrison, D., and Stanton, N.A., 2008. Design with Intent: Persuasive Technology in a Wider Context. In: H., Oinas-Kukkonen, P., Hasle, M., Harjumaa, K., Segerstahl, and P., Ohrstrom (eds), *Persuasive Technology: Third International Conference*, Persuasive 2008, Oulu, Finland, June 4-6, 2008, Proceedings, Springer, Berlin, pp.274-278.

Lockton, D., 2012. *Social and interpersonal approaches to design for behaviour change*. Working paper, Available at <http://danlockton.co.uk>. [Accessed 7 October 2013].

Lockton, D., 2013. *Design with Intent: a design pattern toolkit for environmental and social behaviour change*. Brunel University, School of Engineering and Design, PhD thesis.

Lockton, D., Harrison, D. J., and Stanton, N. A., 2010b. *Modelling the User: How design for sustainable behaviour can reveal different stakeholder perspectives on human nature*. [pdf online] Available at: <http://dspace.brunel.ac.uk> [Accessed 19 November 2012].

Lockton, D., Harrison, D.J. and Stanton, N.A., 2010a. The Design with Intent Method: a design tool for influencing user behaviour. *Applied Ergonomics*, 41(3), pp. 382-392.

Lockton, D., Renström, S., Bowden, F., Rahe, U., Brass, C., Gheerawo, R., 2014. *Energy storytelling through annotating everyday life*. BEHAVE 2014: 3rd European conference on behaviour and energy efficiency, Oxford, UK Energy Research Centre.

Lofthouse, V., 2013. Social Issues: Making them relevant and appropriate to undergraduate student designers. *Design and Technology Education: An International Journal*, 18(2).

Loove Broms Interaction Design, 2015. *Aware Puzzle Switch*. [online] Available at: <www.loove.org/AWARE-Puzzle-Switch> [Accessed 15 August 2015].

Machiavelli, N., 1940 (1531). *The Prince and the Discourses.* New York: RandomHouse

Magdy, M., 2008. *A Semiotic phenomenology of visual rhetoric: Communication and perception of attributes of cultural sustainability in the visual environment of public housing.* North Carolina State University, China.

Malhado, A. C. M., de Araujo, L. M., and Rothfuss, R., 2014. The attitude–behaviour gap and the role of information in influencing sustainable mobility in mega-events. In: Cohen, S., Higham, J., Gossling, S., and Peeters, P., ed. 2014. *Understanding and Governing Sustainable Tourism Mobility: Psychological and Behavioural Approaches.* Routledge. Ch. 7.

Mammasaurus, 2013. *A family adventure and lifestyle blog.* [image online] Available at: <http://mammasaurus.co.uk/> [Accessed 17 January 2013].

Manzini, E., 2005. *A cosmopolitan localism: Prospects for a sustainable local development and the possible role of design.* INDACO, Politechnico di Milano.

Manzini, E., Vezzoli, C., 2003. A strategic design approach to develop sustainable product service systems: Examples taken from the 'environmentally friendly innovation' Italian prize. *Journal of Cleaner Production*, 11(8), pp. 851-857.

Manzini, E., Vezzoli, C., and Clark, G., 2001. Product service systems: using an existing concept as a new approach to sustainability. *Journal of Design Research*, 1(2).

Manzini, E., Walker, S., and Wylany, B., 2008. *Enabling Solutions for Sustainable Living: a Workshop.* Calgary: University of Calgary Press.

Marchand, A. and Walker, S., 2008. Product development and responsible consumption: designing alternatives for sustainable lifestyles. *Journal of Cleaner Production*, vol. 16, pp.1163-1169.

Marchand, A., Walker, S. and Cooper, T., 2010. Beyond Abundance: Self-Interest Motives for Sustainable Consumption in Relation to Product Perception and Preferences. *Sustainability*, 2(5), pp.1431-1447.

Marmot, A., 2002. Architectural determinism. Does design change behaviour? *British Journal of General Practice,* 52,(476), pp.252-253.

Marshall, G., 2014. *Don't Even Think About It: Why Our Brains Are Wired to Ignore Climate Change,* Bloomsbury USA.

Marteau, T., Sowden, A., and Armstrong, D., 2000. Implementing research findings into practice: beyond the information deficit model. In: Haines A, Donald A, editors. *Getting research findings into practice.* 2nd ed. London: British Medical Journal Books, pp.68–76.

Martin R.A., 2010. *The Psychology of Humor: An Integrative Approach.* Elsevier, London.

Maslow, A. H., 1954. *Motivation and Personality.* New York: Harper & Row.

McDonough, W. and Braungart, M., 2002. *Cradle to Cradle: Remaking the Way We Make Things.* North Point Press: New York.

McDonough, W., 2005. *Cradle to Cradle design.* TED Talk. [video online] Available at: <www.ted.com/talks/william_mcdonough_on_cradle_to_cradle_design> [Accessed 4 January 2014].

McKenzie-Mohr, D., and Smith, W., 1999. *Fostering sustainable behavior: An introduction to community-based social marketing.* Gabriola Island, British Columbia, Canada: New Society Publishers.

McKercher, B., 1993. The Unrecognised Threat to Tourism: Can Tourism Survive 'Sustainability'? *Tourism Management,* 14, pp.13-136.

McLuhan, M., 1965. *Understanding Media.* New York: McGraw-Hill.

Mealey, L., 2011. Touchpoints. [online] Available at: <http://restaurants.about.com/od/touchpoints/a/Touchpoints.htm> [Accessed 11 November 2011].

Melodies in Marketing, 2011. *LF USA - Embedding Sustainability into its Business Culture.* [image online] Available at: <http://www.melodiesinmarketing.com/2011/08/06/lf-usa-embedding-sustainability-into-business-culture/> [Accessed 13 February 2013].

Menon, E., 2006. Evil by Design: The Creation and Marketing of the Femme Fatale. Urbana, IL: University of Illinois Press

Meroni A., and Sangiorgi D., 2011. *Design for Services.* Aldershot, UK: Gower Publishing.
Meroni, A., 2007. *Creative Communities: People inventing sustainable ways of living.* Milano: Edizioni Polidesign.

Metcalfe, R., and Dolan, P., 2012. Behavioural economics and its implications for transport. *Journal of Transport Geography,* 24, pp.503-511.

Meyer, C., and Schwager, A., 2007. Understanding customer experience. *Harv. Bus. Rev.* 85, pp.116–126.

Michaels, F.S., 2011. *Monoculture: How One Story is Changing Everything.* Red Clover.

Michie, S., van Stralen, M. M., and West, R., 2011. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. *Implementation Science,* 6 (1), article no. 42.

Miles, M., and Huberman, A. M., 1984. *Qualitative data analysis.* Beverly Hills, CA: Sage Publications.

Miller, D. 2012. *Designing pro environmental behaviour into product interfaces.* [PowerPoint slides]. Available at: <http://www.slideshare.net/davebmiller/designing-pro-environmental-behavior-into-product-interfaces> [Accessed 4 March 2013]. Department of Communication: Stanford University.

Miller, G., Rathouse, K., Scarles, C., Holmes, K., and Tribe, J., 2010. Public understanding of sustainable tourism. *Annals of Tourism Research,* 37(3), 627-645.

Monbiot, G., 2010. *Consumer Hell.* [online] Available at: <http://www.monbiot.com/2010/01/04/consumer-hell/> [Accessed 10 February 2013].

Mont, O., 2002. Clarifying the concept of product service systems. *Journal of Cleaner Production,* 10(3), pp. 237-245.

Mont, O., 2004. *Product-service systems: panacea or myth?* Doctoral dissertation, IIIEE Lund University.

Moscardo, G., 1996. Mindful visitors: Heritage and tourism. *Annals of Tourism Research,* 23, pp.376-397.

Nettle, D., Nott, K., Bateson, M., 2012. *'Cycle Thieves, We Are Watching You': Impact of a Simple Signage Intervention against Bicycle Theft.* PLoS ONE 7(12): e51738.doi:10.1371/journal.pone.0051738

Neuman, W. L., 2007. Qualitative and quantitative sampling. In: *Basics of Social Research* (2nd ed.), pp.140-165. Boston, MA: Allyn & Bacon.

New Scientist, 2013. *You're being manipulated – have you noticed?* New Scientist, 19 June 2013.

Niedderer, K. (2007) Designing Mindful Interaction: The Category of the Performative Object. *Design Issues,* 23(1).

Niedderer, K., Mackrill, J., Clune, S., Lockton, D., Ludden, G., Morris, A., Cain, R., Gardiner, E., Gutteridge, R., Evans, M., Hekkert, P., 2014. *Creating Sustainable Innovation through Design for Behaviour Change: Summary Report.* University of Wolverhampton.

Nielsen Norman Group, 2014a. *Usability 101: Introduction to Usability.* [online] Available at: <www.nngroup.com/articles/usability-101-introduction-to-usability/> [Accessed 20 May 2014].

Nielsen Norman Group, 2014b. *How to Conduct a Heuristic Evaluation.* [online] Available at: <www.nngroup.com/articles/how-to-conduct-a-heuristic-evaluation/> [Accessed 20 May 2014].

Nielsen Norman Group, 2014c. *Severity Ratings for Usability Problems.* [online] Available at: <www.nngroup.com/articles/how-to-rate-the-severity-of-usability-problems> [Accessed 20 May 2014].

Nielsen Norman Group, 2014d. *10 Usability Heuristics for User Interface Design*. [online] Available at: <www.nngroup.com/articles/ten-usability-heuristics> [Accessed 20 May 2014].

Nielsen, J., 1993. *Usability Engineering*. San Diego: Academic Press.

Nielsen, J., 1994. Heuristic evaluation. In Nielsen, J., and Mack, R. L. (Eds.), Usability Inspection Methods, John Wiley & Sons, New York, pp.25-64.
Nir Eyal, 2013. *Why Behaviour Change Apps Don't Work*. [online] Available at: <https://medium.com/behavior-design/why-behavior-change-apps-dont-work-1de726c2d7a4> [Accessed 15 October 2013].

Norman, D.A., 1988. *The Design of Everyday Things*. Doubleday/Currency.

Nudge, 2010. *We'll say it again. If you're trying to curb binge drinking, use social norms*. [online] Available at: <http://nudges.org/2010/03/04/well-say-it-again-if-youre-trying-to-curb-binge-drinking-use-social-norms/> [Accessed 11 October 2012].

Nudge, 2010b. *U.K. social norms campaign to reduce youth violence* [online] . Available at: <http://nudges.org/?s=london+violence> [Accessed 4 November 2011].

Nudge, 2011. *No one at the Comfort Inn in Chicago reads the Nudge blog*. [image online] Available at: <http://nudges.org/2011/04/28/no-one-at-the-comfort-inn-in-chicago-reads-the-nudge-blog/> [Accessed 11 February 2013].

nVision, 2006. *Drivers of Change in Travel and Transport*. [online] Available at: <http://www.futurefoundation.net/nvision.php> [Accessed 7 January 2008].

Objectified, 2009. [DVD] Gary Hustwit, USA: Plexifilm.

Objective One, 2001. *Tourism: Task Force Strategy - The Objective One Partnership for Cornwall and Scilly*. [pdf] Available online at: <http://www.objectiveone.com/ob1/pdfs/tourism.pdf> [Accessed 28 October 2011].

Okasha, S., and Binmore, K., 2012. *Evolution and Rationality: Decisions, Cooperation, and Strategic Behaviour*. Cambridge: Cambridge University Press.

Olson, J., 2004. Quick Methods: Checklists, Heuristic Evaluation, Cognitive Walkthrough. *SI 622 - Evaluation of Systems and Services* (PowerPoint presentation).

One.com, 2012. *Web hosting – Domain, Hosting, Email*. [online] Available at: <www.one.com> [Accessed 24 June 2012].

Oxford Dictionaries, 2015. [online] Available at: <http://www.oxforddictionaries.com/definition/english/perception> .

Papanek, V., 1984. *Design for the Real World*. New York: Van Nostrand.

Pascual, A., and Gueguen, N., 2005. Foot-in-the-door and door-in-the-face: A comparative meta-analytic study. *Psychological Reports*,96,122–128.

Payne, O., 2012. *Inspiring Sustainable Behaviour: 19 Ways to Ask for Change*. Routledge.

Payne, O., and Elder, C., 2010. *How do you create sustainable behaviour – part 1*. [powerpoint slides]. Available at: < http://www.slideshare.net/oliverpayne/how-do-you-create-sustainable-behaviour-part-i> [Accessed 15 August 2013].

Pearce, P.L., 2005. *Tourist Behaviour: Themes and conceptual schemes*. Clevedon: Channel View Publications.

Pentagram, 2009. *Randal Ford, Homeless Signs*. [image online] Available at: <www.pentagram.com> [Accessed 1 May 2013].

Pettersen, I. N., and Boks, C., 2008. The ethics in balancing control and freedom when engineering solutions for sustainable behaviour. *International journal of Sustainable Engineering*, 1(4), pp.287-297.

Pfarr, N., Cervantes, M., Lavey, J., Lee, J., Hintzman, A., and Vuong, V., 2010. *Brains, Behaviour & Design toolkit*. Available at: <http://www.brainsbehavioranddesign.com> [Accessed 22 October 2012]

Phillips, E. M. and Pugh S. D., 2005. *How to Get a PhD: A Handbook for Students and their Supervisors.* 4th edition. Open University Press.

Pichert, D., and Katsikopoulos, K. V., 2008. Green defaults: information presentation and pro-environmental behaviour, *Journal of environmental psychology,* 28 (1), pp.63-73.

Pierce, C. S., 1894.*The essential Pierce: Selected philosophical writings,* vol. 2. Bloomington: Indiana University Press.

Pierce, C. S., 1955. *What is a Sign? Philosophical Writings of Peirce.* New York: Dover, pp.98-104.

Pink, D., 2014a. *Emotionally Intelligent Signage.* [online] Available at: <http://www.danpink.com/category/emotionally-intelligent-signage/> [Accessed 26 September 2013].

Pink, D., 2014b. *Emotionally intelligent signage in a Texas hotel* [image online] <http://www.danpink.com/2011/01/emotionally-intelligent-signage-in-a-texas-hotel/> [Accessed 26 September 2013].

Play Rethink, 2009. *Play Rethink Game.* [Online] Available at: <http://www.playrethink.com/> [Accessed 26 September 2014].

Postman, N., 1985. *Amusing ourselves to death.* New York: Penguin.

Product Creation (n.d.) `*How to use Eco Kettle'.* Available at: <http://www.ecokettle.com/aftersales.htm> [Accessed 28 January 2008].

PurpleFeather, 2012. *The Power of Words* [video online] Available at: <www.purplefeather.co.uk> [Accessed 12 February 2012].

Ram, Y., Nawijn, J., and Peeters, P., 2014. Happiness and limits to sustainable tourism mobility – a new conceptual model. In: Cohen, S., Higham, J., Gossling, S., and Peeters, P., ed. 2014. *Understanding and Governing Sustainable Tourism Mobility: Psychological and Behavioural Approaches.* Routledge. Ch. 3.

Rebelo, F., and Soares, M., 2014. *Advances in Ergonomics in Design, Usability and Special Populations: Part II.* AHFE Conference Publication.

Robson, C., 2002. *Real World Research: A Resource for Social Scientists and Practitioner-Researchers.* 2nd ed., Madden, Mass.; Oxford: Blackwell Publishers.

Robson, C., 2007. *How to do a research project: a guide for undergraduate students.* Blackwell Publishing.

Rodriquez, E., and Boks, C., 2005. How design of products affects user behaviour and vice versa: the environmental implications. In: *Ecodesign 2005: Fourth International Symposium on environmentally Conscious Design and Inverse Manufacturing.*

Roget, P., 1911. *Thesaurus of English Words and Phrases.* Longmans, Green and Co., London, UK.

Russo, P., and Wypich, B., 2009. *Greener Gadgets – SmartSwitch, Stanford University.* [image online] Available at: <www.bungalow.ca/node/2009/02/greener-gadgets-smartswitch-peter-russo-brendan-wypich-stanford-university-2009/> [Accessed 7 June 2012].

Schrage, D. M., 1999. *Serious Play: How the World's Best Companies Simulate to Innovate.* Harvard Business School Press.

Schultz, P. W., Gouveia, V. V., Cameron, L. D.,Tankha, G., Schmuck, P., and Franek, M., 2005. Values and their relationship to environmental concern and conservation behavior. *Journal of Cross-Cultural Psychology,* 36, pp.457–475.

Schultz, P. W., Nolan, J., Cialdini, R., Goldstein, N., and Griskevicius, V., 2007. The constructive, destructive, and reconstructive power of social norms. *Psychological Science,* 18, pp.429-434.

Seago, A., and Dunne, A., 1999. New Methodologies in Art and Design Research: The Object as Discourse. *Design Issues,* 15(2), pp. 11-18. MIT Press.

Sheldon, K. M., and McGregor, H., 2000. Extrinsic value orientation and the tragedy of the commons. *Journal of Personality*, 68, pp.383–411.

Shirky, C., 2008. *Here Comes Everybody: How change happens when people come together.* Penguin.

Shostack, L. G., 1984. Designing services that deliver. *Harvard Business Review*, 62(1), pp.133-139.

Sita Cornwall, 2011. *Falmouth and Penryn household waste recycling centre opens.* [online] Available at: <http://www.sitacornwall.co.uk/news/falmouth-and-penryn-household-waste-recycling> [Accessed 20/10/2011].

Skills Development for Researchers in Design Practice (SKIP), 2012. *Skills Development for Researchers in Design Practice.* [online] Available at: <skip.rca.ac.uk> [Accessed 3 January 2013].

Smith, S. M., and Petty, R. E., 1996. Message framing and persuasion: A message processing analysis. *Personality and Social Psychology Bulletin*, 22, pp.257-268.

Smith, V.L., and Eadington, W.R. 1992. Tourism Alternatives. Philadelphia, PA: University of Pennsylvania Press. In: Butler, W. R., 1999. Sustainable tourism: A state-of-the-art review. *Tourism Geographies*, 1(1), pp.7-25.

Snyder, C., 2003. *Paper prototyping: The fast and easy way to design and refine user interfaces.* Morgan Kaufmann: London.

Socrates (Ancient Greek Philosopher, 470 BC-399 BC)

South Lanarkshire County Council, 2007. *Speed Signs Reduce You to a Smile*, South Lanarkshire County Council [online] Available at: <www.southlanarkshire.gov.uk/portal/page/portal/EXTERNAL_WEBSITE_DEVELOPMENTS/SLC_ONLINE_HOME/SLC_NEWS/NEWS_STORY?content_id=13744>

Stahel, W.R., 1989. *The limits to certainty: Facing risks in the new service economy.* Dordrecht: Kluwer Academy Publishers.

Stahel, W.R.,1986. Hidden Innovation: R&D in a Sustainable Society. *Science and Public Policy*, 13(4), pp.196-203.

Stanton, N. A., and Baber, C., 1998a. Designing for consumers: editorial. *Applied Ergonomics*, 29(1), pp.1-3.

Stanton, N. A., and Baber, C., 1998b. A systems analysis of consumer products. In: N.A. Stanton (ed.) *Human factors in Consumer Products*, Taylor & Francis, London.

Stern, P. C., 2000. Towards a coherent theory of environmentally significant behavior. *Journal of Social Issues, 56(*3), pp.407-424.

Stern, P., 1992. What psychology knows about energy conservation. *American Psychologist*, 47, pp.1224-1231.

Stevels, A., 2007. *Adventures in ecodesign of electronic products 1993-2007.* Design for sustainability program publication n.17. Delft: Delft University of Technology.

Stickdorn, M. and Zehrer, A., 2009. Service Design in Tourism - Customer Experience Driven Destination Management. *Proceedings of the First Nordic Conference on Service Design and Service Innovation* [online]. Available at: < www.aho.no/servicedesign09> [Accessed 17 October 2011].

Strauss, A., and Corbin, J., 1990. *Basics of Qualitative Research: Grounded Theory Procedures and Techniques.* London: Sage.

Strauss, A., and Corbin, J., 1994. Grounded Theory Methodology: An Overview, In: M. B. Denzin and Y. S. Lincoln (Eds.) *Handbook of Qualitative Research*, London: Sage: pp.1-18.

Strauss, A., and Corbin, J., 1998. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory.* London: Sage.

Surfers Against Sewage, 2015. *An environmental charity protecting UK waves, oceans and beaches.* [online] Available at: <http://www.sas.org.uk/> [Accessed 3 November 2011].

SurveyMonkey, 2012. *Online Survey Software.* [online] Available at: <https://www.surveymonkey.com/> [Accessed 10 March 2012].

Sussman, R., and Gillford, R., 2012. Please turn off the lights: The effectiveness of visual prompts. *Applied Ergonomics*, 43(3), pp.596-603.

Sustainable Design Research Group (SDRG), 2011. *Ethics of design for sustainable behaviour.* [online] Available at: <http://www-staff.lboro.ac.uk/~cddl/index.htm> [Accessed 21 August 2012].

Talking Climate, 2011a. *Values and Frames.* [pdf] Available at: <http://talkingclimate.org/wp-content/uploads/2011/10/Values-frames.pdf> [Accessed 8 April 2012].

Talking Climate, 2011b. *Communicating Climate Change.* [pdf] Available at: <http://talkingclimate.org/wp-content/uploads/2011/10/Communicating-climate-change-guide.pdf [Accessed 8 April 2012].

Talking Climate, 2014. *Using Scare-Tactics: does it work?* [online] Available at: <http://talkingclimate.org/guides/using-scare-tactics-does-it-work/> [Accessed 5 January 2014].

Tang, T. and Bhamra, T., 2008. *Changing Energy Consumption Behaviour through Sustainable Product Design*, International Design Conference – Design 2008, Dubrovnik, Croatia, May 19 - 22. Available online at: <https://dspace.lboro.ac.uk/dspace-jspui/handle/2134/8374>.

Taylor, G. and Chesworth, N., 2005. Travel Styles. In Theobald, W., 2004 (Ed.), *Global tourism: the next decade.* 3rd ed. Oxford: Butterworth-Heinemann.

Technoport, 2012. *Casper Boks – Design for sustainable behaviour.* [video online] Available at: <http://www.technoport.no/videotalks/casper-boks-design-for-sustainable-behaviour/> [Accessed 13 September 2012].

Thackara, J., 2005. *In the Bubble: Designing for a Complex World.* MIT Press.

Thaler, R.H., and Sunstein, C.R., 2008. *Nudge: Improving Decisions About Health, Wealth, and Happiness.* Yale University Press.

The Beach, 2000. [film] Directed by Danny Boyle. USA: Figment Films.

The Carefree Traveller, 2013. *Tourist vs Traveller Infographic.* [image] Available at: <http://thecarefreetraveler.com/tourist-vs-traveler/> [Accessed 26 December 2014].

The Flaneur's Turtle, 2013. *An Anti-Black Friday Manifesto.* [image online] Available at: <http://theflaneursturtle.com/tag/black-friday/> [Accessed 26 December 2014].

The International Ecotourism Society, 2011. *Your Travel Choice Makes a Difference.* [online] Available at: <http://www.google.com/url?q=http%3A%2F%2Fwww.ecotourism.org%2Fsite%2Fc.orLQKXPCLmF%2Fb.4835 3%2Fk.563B%2FYour_Travel_Choice_Makes_a_Difference__The_International_Ecotourism_Society.htm&sa=D &sntz=1&usg=AFQjCNGLzplHmB1zNu99OOMNobUDaDpFiw> [Accessed 15 November 2011].

The Living Principles, 2015. *Creative Action for Collective Good: Introduction* [online] Available at: <www.livingprinciples.aiga.org> [Accessed 9 April 2014].

TheFunTheory.com, 2009. *The World's Deepest Bin.* [online] Available at: <http://www.thefuntheory.com/worlds-deepest-bin> [Accessed 28 Dec 2012].

Tolle, E., 2003. *Realizing the Power of Now* [Audio CD], Sounds True Inc.

Tools of Change, 2004. *Turn It Off.* [online] Available at: <http://www.toolsofchange.com/en/case-studies/detail/138> [Accessed 14 May 2011].

Tools of Change, 2012a. *Prompts.* [online] Available at: <http://www.toolsofchange.com/en/tools-of-change/prompts/> [Accessed 10 March 2013]

Tools of Change, 2012b. *Rewire Behaviour Change Program at U of T Residences.* [online] Available at: <http://www.toolsofchange.com/en/case-studies/detail/645> [Accessed 15 February 2013].

Travel Mole, 2014. *Venice revolts against tourism*. [online] Available at: <http://www.travelmole.com/news_feature.php?news_id=2012843> [Accessed 20 September 2014].

Tromp N, Hekkert P, Verbeek P-P., 2011. Design for Socially Responsible Behavior: A Classification of Influence Based on Intended User Experience. *Design Issues*, 27(3), pp.3-19.

Tukker, A., and Tischner, U. (eds.), 2006. *New business for Old Europe. Product Services, Sustainability and Competitiveness*. Sheffield: Greenleaf publishers.

Tversky, A., and Kahneman, D., 1981. 'The Framing of Decisions and the Psychology of Choice'. *Science*, 211, pp.453-458.

Tversky, A., and Kahneman, D., 1986. Rational Choice and the Framing of Decisions. Journal of Business, 59(4), pp. S251-S278

UI Patterns, n.d. *Loss Aversion Design Pattern*. [image online] Available at: <http://ui-patterns.com/patterns/Loss-aversion> [Accessed 9 December 2012].

United Nations Environmental Programme (UNEP), 2002. *Product-Service Systems and Sustainability. Opportunities for sustainable solutions*. Paris, France: UNEP, Division of Technology Industry and Economics, Production and Consumption Branch.

United Nations Environmental Programme (UNEP), 2003. *Marketing 'Cool' Life-Styles Key to Selling Clean and Green Products*. [online] Available at: <http://www.unep.orq/Documents/Default.asp?documentID=277&ArticleID=3206> [Accessed 3 November 2011].

UNWTO World Tourism Organisation, 2011. *How do you think tourism links cultures?* [online] Available at: <http://wtd.unwto.org/en> [Accessed 20 November 2011].

Usability Net, 2014. *International standards for HCI and usability*. [online] Available at: <www.usabilitynet.org/tools/r_international.htm#9241-11> [Accessed 19 April 2014].

van der Linden, S., 2014. Towards a new model for communicating climate change. In: Cohen, S., Higham, J., Gossling, S., and Peeters, P., ed. 2014. *Understanding and Governing Sustainable Tourism Mobility: Psychological and Behavioural Approaches*. Routledge. Ch. 14.

Verbeek, P-P., 2005. *What Things Do, Philosophical reflections on Technology, agency, and Design*. Penn State Press.

Visit Cornwall, 2012. *Cornwall Visitor Survey 2012: Final Report*. [pdf online] Available at: <www.visitcornwall.com/sites/default/files/generic_files/Cornwall Visitor Survey 2012.pdf> [Accessed 3 February 2103].

Walker, P., 2007. *IEMA magazine - Behave!* [pdf online] Available at: <http://static1.squarespace.com/static/53f5e2eae4b0593b948c9e4c/t/547f6c55e4b0e7605595bd0c/14176369 49556/Behave.pdf> [Accessed 21 November 2014].

Walker, S., 2006. *Sustainable by Design: Explorations in Theory and Practice*. Earthscan.

Walker, S., 2010a. *Temporal Objects: Design, Change and Sustainability*. [pdf] Available at: <http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=10&ved=0CHEQFjAJ&url=http%3A%2F %2Fwww.mdpi.com%2F20711050%2F2%2F3%2F812%2Fpdf&ei=DqYVT4qALIij8QPP66S8Dw&usg=AFQjCNGh R2NsVHJcavw26LiqzOB4iKmJw&sig2=ZHZxLsO0_MlzsXhjxatnVw> [Accessed 17 January 2012].

Walker, S., 2010b. Wrapped Attention: Designing Products for Evolving Permanence and Enduring Meaning. *Design Issues*, 26(4), pp.94-108.

Walker, S., 2011. *The Spirit of Design: Objects, Environment and Meaning*. Oxon: Earthscan.

Walker, S., 2013. *From Here to There: Radical Design for Sustainability*. TEDxBrum Talk. [video online] Available at: <tedxtalks.ted.com/video/From-Here-to-There-Radical-Desi;TEDxBrum> [Accessed 20 July 2013].

Walker, S., 2014. *Designing sustainability: Making radical changes in a material world.* New York: Routledge.

Warner, C. M, Stoll, R., Birch, P., White, P.H., 2002. Clinical validation and cognitive elaboration: signs that encourage sustained recycling. *Basic and Applied Social Psychology*, 24, pp.185-203.

Water Words That Work, n.d. *Step Six: Review Readability.* [online] Available at: <www.waterwordsthatwork.com/our-methods/message-method/step-six-review-readability> [Accessed 4 March 2012].

Watzlawick, P., Beavin, A., and Jackson, D., 1967. *Pragmatics of human communication.* New York: Norton.

Werner, C. M., White, P. H., Byerly, S., and Stoll, R., 2009. Signs that encourage internalized recycling: clinical validation, weak messages and creative elaboration. *Journal of Environmental Psychology*, 29, pp.193-202.

Wever, R., Van Kuijk, J., and Boks, C., 2008. User-centred Design for Sustainable Behaviour. *International Journal of Sustainable Engineering*, 1(1), pp. 9-20.

Wheeler, B., 2012. Sustainable mass tourism: More smudge than nudge – the canard continues. *Critical debates in tourism*, pp.39-43.

Winter and Burn, 2007. Environmental Intervention Handbook for Resource Managers. [online] Available at: <http://www.darkcoding.net/research/Environmental_Intervation_for_Resource_Managers.pdf> [Accessed 15 April 2013].

Wix, 2013. *Free Website Builder.* [online] Available at: <www.wix.com> [Accessed 5 January 2013].

WooCommerce, 2012. *A free eCommerce toolkit for WordPress.* [online] Available at: <http://www.woothemes.com/woocommerce/> [Accessed 14 June 2012].

Wood, G., and Newborough, M., 2003. Dynamic energy-consumption indicators for domestic appliances: Environment, behaviour and design. *Energy and Buildings*, 35(8), pp.821-841.

Wordpress, 2012. *Blog Tool, Publishing Platform, and CMS.* [online] Available at: <https://wordpress.org> [Accessed 4 June 2012].

World Tourism Organization, 1993. *Sustainable Tourism Development: Guide for Local Planners.* Madrid: WTO. WWF, 2008. Weathercocks and Signposts. Godalming: WWF.

Zachrisson, J., Storroe, G., and Boks, C., 2011. *Using a guide to select design strategies for behaviour change; Theory vs. Practice.* Proceedings of EcoDesign 2011 – 7th International Symposium on Environmentally Conscious Design and Inverse Manufacturing, Kyoto, Japan.

Appendix

Appendix 1

Presenting the concept of 'Triggers for Change' Webtool to Lord Heseltine (Academy for Innovation & Research, Falmouth University).

Appendix 2

Presentation of early research at Bournemouth University's "Tourism, Climate Change and Sustainability" 2012 conference.

International Conference on
Tourism, Climate Change and Sustainability
13-14 September 2012
School of Tourism, Bournemouth University, UK

	and Impacts in European Small and Medium Tourism Enterprises		
13:30-15:30 **Breakout Session 2** **Room: K101**	Adapting to Climate Change in the Andean Altiplano: Opportunities for Sustainable Experiential Agritourism	CARLA BARBIERI and CORRINE VALDIVIA	Chair: Dr Susanna Curtin (25 minutes presentations + 5 minutes Q& A for each presentation)
	Expansion and divergence: a closer look at the carbon footprint of Dutch holidaymakers	EKE EIJGELAAR	
	Tourism and Climate Change: The impact of weather on tourism profitability	JONATHAN DAY, NATALIE CHIN, SANDRA SYDNOR and KEITH CHERKAUER	
	Solar energy use in the hospitality sector of coastal resorts: case study of Sozopol, Bulgaria and Mugla, Turkey	KATIA IANKOVA	
13:30-15:30 **Breakout Session 3** **Room: Marconi**	Monitoring Progress towards Sustainable Planning and Tourism Management in New Zealand	JOANNE CONNELL	Chair: Dr Janet Dickinson (25 minutes presentations + 5 minutes Q& A for each presentation)
	Does the pursuit of local food destroy our environment: questions of authenticity and sustainability?	SEAN BEER	
	Assessing Las Vegas Resident Support for Ecotourism Development on Public Lands	COURTNEY SUESS	
	Product-Service Touchpoints Design as a medium to influence Behavioural Change in order to advance Sustainability in Tourism	NIKOLAOS ANTZOULATOS	
15:30-16:00	Coffee Break	First Floor, Kimmeridge House	
16:30-17:00	**Keynote 4** Deidre Shurland UNEP-DTIE / Global Partnership for Sustainable Tourism	KG01	Chair: Prof Stephen Page

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EXTENTED ABSTRACT : BOURNEMOUTH CONFERENCE on 'Tourism, Climate Change and Sustainability' Sept. 2012.

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"Product-Service Touchpoints Design as a medium to influence Behavioural Change in order to advance Sustainability in Tourism"

There is a recognized need for "sustainable tourism" (Butler, 1999) or "ethical and responsible tourism" (Goodwin et al, 2003) due to the global growth of tourism and its various damaging by-products. According to Moscardo (1996) and Pearce (2005), one of the major ways to achieve sustainability in tourism is by influencing the behaviour and attitudes of visitor's and tourism operators. In the contemporary framework of sustainable design, many authors argue for the importance of design as a powerful means of furthering behaviour change towards more sustainable practices (Lilley, 2009; Thackara, 2005; Walker, 2006; Bhamra et al. 2008).

As Manzini et al (2008) argue, sustainable design should address and prioritize the design of new community-based services rather than solely new tangible products. Innovation on a product level alone is important but not enough to create conditions for sustainability (Ceschin, 2011). Unsustainable patterns of production and consumption need to be radically redefined at a systemic level through "strategic design for sustainability" or "product-service systems (PSS)"; an innovation strategy where the business focus is no longer the design of a physical product but the design of customer satisfaction in more intangible ways (Manzini et al, 2003).

Compared with conventional business models, a PSS is designed to be dematerializing, using fewer materials to achieve customer satisfaction because the focus is on the 'function' rather than the 'product' itself. The concept of car-sharing is a good example of a product-service provision: The company sells the use of the product. The customer does not own the product. Customer satisfaction is achieved through the delivery of the function (mobility) rather than the product (car). This innovative strategy can be "a possible answer to the sustainability challenge" and have the potential to decrease the impact of production and consumption on the environment (Mont, 2002, p.237) because fewer materials are needed, which in turn means fewer resources being exploited and less waste being created.

'TouchPoints' are a central aspect of Service Design (Clatworthy, 2011). In my research proposal Touchpoint is defined as a designed functional tangible or intangible point of customer interaction, within the PSS model, that acts as a powerful communication tool, delivering an anticipated experience.

Modifying people's behaviour will be critical in order to achieve environmental benefits (Cornwall Council, 2011). Nevertheless, "sustainability cannot be externally imposed through a one-size-fits-all approach" (Walker, 2010, p.813) and that makes changing business and tourist behaviour towards more sustainable patterns even more challenging because it means that sustainability has to be tailored to place and local conditions.

In my research project I address social, economic and environmental issues as they pertain to tourism and I aim to demonstrate the importance of the design and application of successful product-service Touchpoint interventions as a medium to change touristic behaviour, lessen its impact and support sustainability in tourism.

References:

Bhamra, T. A., Lilley, D. and Tang, T., 2008. Sustainable use: changing consumer behaviour through product design. In: Changing the change: design visions, proposals and tools, Turin, Italy.

Butler, W. R., 1999. Sustainable tourism: A state-of-the-art review. *Tourism Geographies*, 1(1), pp.7-25.

Ceschin, F., 2011. The societal embedding of sustainable Product-Service Systems, Editore: Greenleaf Publishing, Note: To be published. Included in: Vezzoli C. et al (eds.) Product-Service System design for sustainability.

Clatworthy, S., 2011. Service innovation through touch-points: Development of an innovation toolkit for the first stages of new service development*. International Journal of Design*, 5(2), pp.15-28.

Cornwall Council, 2011. *Cornwall environment evidence report* [pdf] Cornwall: Community Intelligence, Chief Executives Department. Available at: <http://www.cornwall.gov.uk/default.aspx?page=24548> [Accessed at 21 November 2011].

Goodwin, H. and Francis, J., 2003. Ethical and Responsible Tourism: Consumer Trends in the UK. *Journal of Vacation Marketing*, 9, pp. 271–284.

Lilley, D., 2009. Design for sustainable behaviour: strategies and perceptions. *Design Studies,* June 2009. [Online] Available at: <http://dx.doi.org/10.1016/j.destud.2009.05.001>.

Manzini, E., Vezzoli, C., 2003. A strategic design approach to develop sustainable product service systems: Examples taken from the 'environmentally friendly innovation' Italian prize. *Journal of Cleaner Production*, 11(8): pp. 851-857.

Manzini, E., Walker, S., and Wylany, B., 2008. *Enabling Solutions for Sustainable Living: a Workshop.* Calgary: University of Calgary Press.

Mont, O., 2002. Clarifying the concept of product service systems. *Journal of Cleaner Production*, 10(3), 237–245.

Moscardo, G., 1996. Mindful visitors: Heritage and tourism. *Annals of Tourism Research*, 23, pp.376-397.

Pearce, P.L., 2005. *Tourist Behaviour: Themes and conceptual schemes*. Clevedon: Channel View Publications.

Thackara, J., 2005. *In the Bubble: Designing for a Complex World.* MIT Press.

Walker, S., 2006. *Sustainable by Design: Explorations in Theory and Practice*. Earthscan.

Walker, S., 2010. *Temporal Objects: Design, Change and Sustainability*. [pdf] Available at: <http://www.mdpi.com/2071-1050/2/3/812/> [Accessed 17 January 2012].

Appendix 3

SUPER: Sustainable Product Design exhibition at the Eden Project, Cornwall.

Appendix 4

Ethics in Human Centred Design: an example of a consent form as used in this research.

PARTICIPANT CONSENT FORM

FALMOUTH
UNIVERSITY

1. Project Title:

"The Design and Application of TouchPoints to influence Touristic Behaviour-Change in order to advance Sustainable Tourism in Cornwall."

2. Invitation to Participate:

You are being invited to take part in a research project. Before you decide to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the attached information sheet carefully and discuss it with others if you wish. Please ask if anything is unclear or if you would like more information.

3. Activity Consents:

I understand that I have agreed to:
- a photograph to be taken and/or
- a video to be made of my participation in the research and/or
- be interviewed and/or
- complete a questionnaire

4. Data Consents:

- I have had explained to me and understand the appropriate health and safety procedures for my part in this research.

- I understand that my involvement in this study, and particular data from this research, will remain strictly confidential. Only the researchers involved in the study will have access to the data. It has been explained to me what will happen to the data once the research has been completed.

- I understand that, apart from my personal details, confidentiality cannot be guaranteed for information which I might disclose in the workshop and/or group interviews.

- I have read the information leaflet about the research project which I have been asked to take part in and have been given a copy of this information leaflet to keep.

- What is going to happen and why it is being done has been explained to me, and I have had the opportunity to discuss the details and ask questions.

5. Right of withdrawal:

Having given this consent I understand that I have the right to withdraw from the programme at any time without disadvantage to myself and without having to give any reason.

6. Statement of Consent:

I have read the information leaflet about the research project which I have been asked to take part in and have been given a copy of this information leaflet to keep.

I hereby fully and freely consent to participation in the study which has been fully explained to me.

7. Signatures:

Participant's name
(BLOCK CAPITALS):

Participant's signature: Date: 4/11/13

Principal staff/student
investigator's name
(BLOCK CAPITALS): NIKOS ANTZOULATOS

Principal staff/student
investigator's signature: Date: 4/11/13

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FALMOUTH
UNIVERSITY

Appendix 5

Transcriptions of Personal Interviews with representatives of the Cornish Tourism industry.

Interviewer: Nikos Antzoulatos

Participant: ███ – owner of ██████ Farm Cottages

Acronyms:

I = Interviewer

PB = Participant

I: First of all, let me thank you once again for accepting to do this small interview. I really appreciate your time and concern.

[At this introductory point, the participant is asked to describe how they entered the accommodation provision business. Starting the interview by encouraging the participant to talk a little bit about themselves, is an established way to initiate a positive atmosphere within the interview and "develop the rapport between the interviewer and interviewee" – also known as an "ice-breaker question". Thus, the introductory point from 00:29 – 03:20 will not be transcribed because it is irrelevant to the focus of this research].

[http://www.monash.edu.au/careers/students-grads/apply-for-a-job/interviews-sample-questions.html]

I: I suppose that *one* of the reasons that someone would choose to be your visitor here is to come closer to nature. That makes me wonder, is there a proenvironmental, a sustainability element in your business values?

PB: Well, it is at the core of our business because we grew up – our children were brought up in a farm. The farm was our life because being a farmer you have to live within your boundaries, because it is always, *always* busy. So, you are more in tune with what's going on now in outside. The weather influences you very importantly, no matter what you do.

Today's suburban dwellers, the difference that they have - whether it's windy, sunny, rainy, whatever - is whether they put a coat on. And that's about as much as they notice the weather, the seasons and mother nature. Because I interact a lot with my customers which are all my children's age, in their 30's to 40's with young children – that's my customer base – and I start to realize how *little* people actually know or care about the natural world around them.

It has always been a part of my personal interest and my husband's, and our children's – who both grew up on the farm but didn't want to be farmers and actually chose environmental degrees and then they went to work with the environment agency. It's at the core of their heart. You know, they will spend time with their children, they'll be at the beach - looking, showing, telling. And that's how they spent their childhood. They just knew the trees, the times of the year, the insects, the animals – and farmers get a lot of stick for being very, very environmentally desensitized these days, and sometimes I put my hand up and say, you know – when we joined the EU, things changed. My husband's dad was a mixed farmer, he had a bit of this, a bit of that. Everything was in harmony. The farm was a self-sufficient unit and sold some extra bullocks or a bit of corn or whatever, to live. But the life was contained within the farm. The European Union and the directives that came out and the grants system, kinda changed that, in the lifetime that I lived through, in the 80's, where you where paid big money for growing a certain crop [describes different kinds of crops]. So, fields became bigger, bigger machinery, the whole thing. But it was economy driven.
Farmers were only responding to dictates that were coming from elsewhere. And they do get into a lot of criticism for doing that, but I lived through it and I know what it was like. You know, we were given grants to drain our wetlands full of beautiful plants, flowers, animals, in order to produce more food.

It was money driven. It was farmers responding to the economy and not to nature or the environment. It was man's belief that food was all important and [inaudible] the rest, what was living, creatures, insects, you know, *spay, spray, spray*. And I think that was a start of a very bad period in our natural world.

That was a long answer to a short question, wasn't it? [laughs]

I: That was a perfect answer. But due to our limited time today, I would like to move on to the next question. Do you use in your business context any signs that encourage proenvironmental behaviour from your visitors?

PB: Well, I have a folder in the cottages called "Caring for Cornwall", and I've just called it "Caring for Cornwall" but it is actually about thinking about what you do, and the fact that we are trying to be as sustainable as we possibly can, so please be considerate [sic].

I do not like signs. I have said this to you before [referring to our informal phone conversation about sustainable tourism prior to this interview]. I don't like *"Do not", "Do not", "Do not".* I try to do it more by conversation, by behaviour, by talking to our visitors about things, what we do to encourage guest to do – basically what I am *needing* them to do [sic] but not just by putting signs up.

I: Would it possible to see that brochure later?

PB: Yes.

I: That is fantastic. So, would you know or could you estimate if this brochure is effective in encouraging a sustainable behaviour from your visitors on not? Would you be able to measure that?

PB: Well, I do not know that it's just the brochure. But I just know because I send my guests a survey when they go home – probably get about 15% filled in. I ask them questions, "Did our sustainable behaviour influence you" and I get answers to these questions. And a lot of them say "No, we were already doing x, y, z", or some say "Yes, the composting was so easy, I am definitely going to start doing more composting when I get home", and so on.

So, I wouldn't say it was across the board. The one thing and element of behaviour I am finding *really* difficult to change is the use of electricity and gas and water. People think when they're on holiday they paid for the house, the money is all spent, so really "I can just use as much as I like". And that is a really hard nut to crack.

I have WiFi in all my cottages now, so I am looking at a system which is going to tell me when things have been left on. So I am working my way towards being in more control of that.

I: Indeed, I remember you saying that when we had our phone some time ago.
What I would like to do now, is show you some conceptual signs I have been working on that are based on contemporary academic theory and possibly have your comments on them.

PB: [body gesture: nodding head positively].

I: Let's start with this one [placing card on table]. This message is based on the insight from theory that people tend to go along with the default option that is presented to them. So, what this message is designed to do is use this insight – according to the message, by default the hotel does not change the visitor's bed linen unless they place the card on their bed, unless they affirmatively choose to opt in. What do you think about this sign?

PB: I think that it's great. To me, if I was staying in a hotel more than one night, I would never expect my bed linen to be changed. I personally would not think that this was acceptable. I think it's wasteful and I would definitely opt out [in this case opt out means to not use the card – not expect your bed linens to be changed]. Personally, if I saw that, it would give the hotel a bravo point-tick, that they actually considered to do that. But that's me because I know about it. I don't have the feeling that because I've paid the night's room that I should expect to get into clean sheets every night. That's not the way I think. I would definitely say "Yes" [body gesture: tapping with their fingers on the printed sign in front of them].

I: Do you think this encourages guests to engage in proenvironmental behaviours?

PB: Yes.

I: I would like to move on to these cards (placing cards on table). They are based on the theory of social pressure, social norms. What theory says is that when you tell people "Most people are doing the right thing, the right behaviour" social pressure arises that influences the individual, because they don't want to be left out of the box, they don't want to be the black sheep of the family. So, an individual, a tourist, is influenced and follows along with what is commonly done in a particular setting.

Thus, these messages have been designed to point out that in this hotel most guests are already doing the green thing. What would you think about these signs?

PB: Well, I feel the same about the other one. I would look at it and think "That's cool". You know, they've recognized it, they're doing something about it and I would say "Fantastic". But in my knowledge, I just know there's an awful lot of people that would just say "That's you just trying to be mean and you're just trying to deprive us of what we've paid for. You're not actually doing anything for the environment, you just trying to be cheapskate, and I'm not subscribing to that." There is an element of the population who would actually look at that (body gesture: pointing at the sign) and say stuff like that, you know, "You just don't want us to enjoy our holiday". But for *me* that [sign] would be great.

You know, you're saying to people "We're trying to take some steps to be sensible about this, can you help us please?". That's great.

I: I really like the fact that you are explaining the different view-points of tourists.

PB: I have these conversations with my guests – some of them say "We're on holiday. For us a luxury hotel, cottage, whatever, has a rain headshower that *really, really* rocks. But if you put me in a little pathetic minimal shower, I'll think you're not a luxury place, you're actually just being mean, tight, not giving us a luxury experience."

So, to be at the top of your tree for quality and trying to be sustainable is actually quite a hard mix in certain places like the heating, like the water. I said to you at the first bit of the conversation we've had, those are the two hardest things to crack. We've cracked the recycling, we've cracked the composting, we've cracked a lot of the laundry issue, we've done that. And we've put as much as we can in the cottages so people can do it easily. And I think that's the thing, you have to make everything easy. For instance, the hotel room that has the card, right? Click it in the door, the electric comes on; out of the door, the electric comes off. It's just so easy. You don't have to go around switching all those individual lights off. So, you make it easy for me, I'm happy.

And that's when things start to happen. When you make it easy. For instance, our recycling. We didn't get anywhere near of the recycling take-up until we gave people bags to hang in their cottages. The difference that made was amazing – the year we did it. Just saying "Please recycle" didn't happen.

I: Let us move on to another conceptual message – and again, let me tell you that I really like the fact that you are pointing out various viewpoints of different visitors; it is very helpful for my research.

This concept [placing card on table] is based on the insight that "commitments set the stage for subsequent consistent behaviour". So, what that means is that – they did a research at hotels [referring to the research of Baca-Motes]. At check in, they asked hotel guests to voluntarily express their commitment to be a green visitor, just by signing yes or no, to save energy and water by re-using their towels during their stay. So, they've asked for their commitment; some of them said "No", some of them said "Yes". The visitors that said "Yes" and committed to be a green guest, at check-in, significantly more likely to do the green thing, to be a green visitor during their stay. That is the principle of commitment.

So, according to this concept [pointing at conceptual signs on table], at check-in, this statement of being a green visitor is presented to guests. If a guest says "Yes" I would like to be a green visitor then my idea is to create this personalised message [pointing at conceptual personalized message] that will be placed in their room. The hotelier fills in their name, for example if "Chris", the visitor, says yes then "Dear Chris, thank you for accepting to do your best to save water and energy by reusing your towels during your stay. Being a green visitor makes you a great person and we love you for it. Have a great holiday in Cornwall."

The idea behind having a personalised message and having the visitor see their name on the sign is based on theory that says that it increases their sense of personal responsibility. So, in a way it makes green behaviour a more personal thing. Because it is

a different thing seeing "Dear Chris" on the wall, and different seeing "Dear visitor". What is your opinion about this sign?

PB: In theory this is great. Whether it works practically – I would sit here, thinking "God, I've said I'm going to be green. Actually, I went out to the beach today or did a long country walk, I've had mud everywhere and I washed my hair and my towels are muddy, and they *need* to be changed." And I'd be going [putting on a theatrical tone of voice] "Oh, my god, I said I'd reuse my towels, I feel so bad. Actually, they are muddy and I need them changed. What am I going to do here?" [laughs].

I wonder how I would feel about that. I know it makes people feel better to thing they're being green. To follow that behaviour through is like going on a diet. You know, you start every Monday morning and you're going to do it, aren't you? And all day Monday is fine, but then Tuesday you *really* want to eat that bit of chocolate, so you weaken as you go along. It is really hard.

I think the only way to get people to change their behaviour is going to be lead by example, absolutely make them feel part of the club, but the thing that makes the biggest difference of them all is money. They see they are going to get something out of it, that is what makes people continue to do it. You almost need to incentivize it, and that is how you get the most results. How you do it, I don't know. The social thing is great and yes I think there's lot of [inaudible] in this, but actually is a sort of, you know – to roll out some methodology that you could actually save it, you're gonna do this then great, you're gonna get an extra voucher to come back again, and, you know, you've help us save money, you helped us be more environmentally friendly, that's fantastic, but, you know, "for being green, here you go guys", one person, for a night free when you come back.

I just think that's the way to get people to get mostly involved, but, hearts and minds, fantastic. And I think, "Yes, this is great", but it's starting to feel a little bit "I am actually fed up with this green thing now. I've said I'm gonna be good, I've got this thing in my room, I've got a pat on the head, good boy, but I don't necessarily need to part of the club" [laughs].

I: **Excellent [small pause]. The theory behind these ones [placing cards on table] is very interesting. What these messages are based on is that displaying cues of being watched motivates the desired behaviour. So, these messages have been designed to motivate proenvironmental behaviour of visitors by displaying an image of a pair of eyes staring directly into the eyes of the observer. This [pointing at the sign on the table] is based on theory; they have done this experiment and they have seen that it indeed increases the target behaviour. So, these messages have been designed based on this thinking. I would really love to hear your viewpoint on these ones.**

PB: [laughs] If I saw that I'd think "Oh, there's a man in the toilet spying on me. Go away!" [laughs] No, that's too 'big brother' for me. This one is not so bad (showing the sign with the smaller pair of eyes), but you know, that's fine (hiding the image of the eyes with their fingers, indicating the rest of the sign should stand on its own without the eyes). The eyes don't do it for me, no. And I really think these messages are the most important (starting to read out loud

the wording on the sign) 'Join us in our effort to conserve', you know, "we are trying our best, please join in with us", you know.

I think people engage with you and I know the best response in anything we have on the farm whether is going down in the woods yesterday making arrows with the kids or doing pony rides this morning, and the guests just love it because my husband and I , old age pensioners as we are, we are still doing, we're out there with them, talking to the guys who run it, they share our passion, and I think this is role-modelling and big hotels can't do that. So here we're leading by our example, and they're part of the (business' name) family. We call them the (business' name) family, when they're been here three time they get a discount. They belong, they're part of our team; what we do, they want to do too. So, influencing by emulating behaviour is great. They're not watching what I'm doing in the loo but they actually want to be part of our gang. They want to do what we're trying to do cause they believe in us and I think this is how we succeed in a lot of the initiatives we have here.

I: Right [at this point the interviewer asks to see if they are doing alright in terms of time constraints and receives the participant's consent to move on with the interview].

[Placing card on table] The idea behind this message is once again based on theory that says when you acknowledge people's complaints they stop being reactant towards you & that elevates their compliance with your request. For example, they did an experiment – they created a sign that said 'Please recycle' and they also created a sign that said 'Please recycle, we know it's …

PB: A pane …

I: … a pane but it is very important. So this message is based on that theory, the insight of validation. You have already commented on signs like this one, would you have anything more to add?

PB: I think it is a very important message. It *is* inconvenient, it is a nuisance. You know, you've got all this stuff and you think 'For goodness sake', I have to do this, do that. But what I've said before still applies, *you have to make it easy*. If people have to struggle down staircases with bags of cans, and bottles and things, no… But if you provide it in their rooms, and you've got a multi-bin in their hotel room then they don't have much to do, do they? Have a segregated bin, to to to, (hand movement as if placing stuff into recycling bins), easy. Then, that message would be fine. But you have to make it easy.

I: Ok, two more to go and we are done. This is one of my favourites [placing cards on table]. This message is based on the insight from theory that when you tell people they care about the environment they start acting as if they do, because they have started wearing a mental badge that says 'I am a green person now'. This message has been designed to put this mental badge on visitors heads 'I am someone that cares about the climate' – it says 'We know you care about the environment as much as we in Cornwall do... in Falmouth do' and therefore it has been designed to put a mental badge on people's heads and elevate a pro-environmental attitude. What would you say about that? Any comments?

PB: That would be absolutely fine. It's just prompting people to say, 'Ok, you're hot enough to leave the window open but don't open it and leave the radiator on'. That is giving them a message that actually says 'What you're doing is contradictory, you're a green person and you need to do that, as well.' Which is just a prompt and that would be fine. No problem at all.

I: Would you say it might influence a pro-environmental behaviour?

PB: I do, yes. I definitely think that it would probably made them stop and think and turn the radiator of. If it was easy; if the radiator control was over there and the windows over here they could just go down like that, that's fantastic. But on every single thing I've said, you have to make the ease of doing each of these actions really simple. And I like the black one better than the second [referring to the dotted one].

I: Can I ask you why is that?

PB: Because it's more direct. In this one the wording doesn't stand out and it's not giving me the message as quickly as that one.

I: These messages use two figures. A figure of an arrow pointing out the place where the desired behaviour occurs, for example this one could be placed above the light-switch. It is as simple as that. This one uses a smiley figure which, as theory says, and used by the government of Obama in the States in electricity bills that are sent to the local communities, it indicates a social approval, 'We approve that'. So, for example in this sign 'We approve saving energy', We like it, smiley face – we smile about that. The Obama government uses that, theory uses that, so I was thinking to use it in messages – for example, disposing your sanitary items in the waste bin provided is something we approve. That's what the smiley face is designed to do. Would you have anything to comment on that?

PB: I think that is fine, and I think that the smiley face does actually encourages you to go *tick* (adding a 'tick' sound and a gesture with her hand like ticking a box), you know, that's good, smile. And I think that's fine.

I: Do you think it is something that could make the sign seem silly?

PB: Not at all. I think it needs to be ultra simple. I mean this sign is much better that that one for me.

I: Why do you say that?

PB: Because the message is really quick and easy to read. I've got to stop and read all those sentences – this is like, 'In this guest house we save energy, please join us' and (adding her own words) 'Please put your sanitary items in the bin' (making wind sound indicating speed). Done. Message quick, understood. I don't have to sit and read 'Join our fellow guests in protecting the environment'… .

I: So, this message uses fewer words, is shorter...

PB: direct, easy, just understand it – I am going with that one [tapping on sign with smiley face and arrow]. I am doing it, I don't need to know that my fellow guests are doing it necessarily. I know we are saving energy together.

I: Fantastic. For our last set of messages I have some that are already out there, I do not know if you recognise them – this is the towel-message from CoaST, this is…

PB: These [tapping on the sign from Leap agency] were absolutely brilliant because they introduced a sense of humour. And that is *always* a great way to getting people to smile and feel good about. You actually looked at it and you thought 'You turned me on but then walked away', so cool. I really like them and I have all of those and I thought they were absolutely fantastic. Brilliant. Really, really good. I love clever use of language, it is always going to score highly in my world [laughs].

I: Great. We are done with the messages, I only have a couple of questions left and the interview can come to an end.

At the core of my research is to also use a website. The idea is that hoteliers and accommodation providers of Cornwall that want to use messages in their business context, can access the website, choose the messages they like easy & fast, but there are two ways to choose the message. One way would be to enter the website, to click on the message of your choice and you can instantly download it and print it from your computer – or, you can choose the messages and ask for them to be delivered at your post, printed in a harder material, a card. So, on the one hand we have the, what I call, the 'sustainable' option, where you can print it and place it right there, or the, what I call, the 'postman' option, where you get the message a bit later but the sign would be in a better quality. So, if you where to use the website, which option would you use?

PB: Well, again, I think it's very much horses for courses, what you're going to design the message for. For instance, in my folder, and I'm talking about something I could download this as an image and then use it in my own way, I'd be downloading it from the website. If I wanted to stick it in the window or put it by the bin a paper message looks really bad, in no time at all. It gets damp, it crinkles round the edges, it complete defeats the object. A bad, mucky paper message is worse than no message at all. So for me, if I was going to put it where it's going to be at work, in a bathroom or a bedroom, then I'd be wanting the better quality message even though I'd been knowing that environmentally it's easier for me to print off, I'd be wanting that as more durable, so in the long run I only need one of those for ten of those – that's the way my brain would work. But I would like to have the resource on the website, so that I could choose to use these messages in a different way. Not just printing off and sticking it there, I might want to use it [the image] in my own book. So, I am asking for a third option, a downloadable image that we can put in our own information packs.

I: As far as I understand you are not keen on using signs in your business context.

PB: [laughs] As much as possible. I try to limit the signage because I really do get fed up with people preaching me and telling me what I should and shouldn't do. Also, I want to join in to

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being green but I want to do it in an easy and simple way myself. I am quite happy to talk about it, the ways we do it, and try to encourage the guest to join in but I don't want to have *don't do that, don't do that, don't do that.* Negative messages are really, really bad. You know, we have a folder in the cottages, it's like a bible, it's everything we do and all the steps we take along the way and explain why we do it. And a lot of people do read all that stuff, and they're feeling more comfortable. And I say a question on my survey 'Did the green thing made any difference to you choosing your holiday', and they say yes, when it came down to like for like, and one place is doing everything in a sustainable way and tells you about it, and the other doesn't necessarily, that one make our choice for us.

And I am talking about customers which generally are more environmentally aware. The majority of them are looking to give their children an experience of nature, the natural world that they don't get at home. And they feel they're depriving their children of it because of the way we are living today, and they have no choice except to live in suburbia, because they need to live there for work. But they are also very aware that their children's lives are contained and they actually want to get them out in the freedom to interact with the animals and do the stuff they probably did as children. They have a desire to be in the natural world. Which is great cause they recognise its value. So, all the things we do have already a head start on the people who are on the campsite. Here, if we have a bin that's full of everything, we actually talk about it 'Do you know that people in that cottage didn't recycle a thing? Everything went into the bin.' That's rare. Recycling is great here.

I: I would like to ask for your participation in my research. More specifically, to use one message about encouraging pro-environmental behaviour from the website, place it in your business context for an agreed period of time, and see if it indeed makes any difference – looking at your energy bills or asking your visitors about it. But since you've already said that you wouldn't like to use any messages in your business context, I feel I shouldn't be asking that question at all.

PB: [laughs]

I: You wouldn't be interested in using one message, would you?

PB: Well, I wouldn't mind doing it in *a* cottage, for instance. I mean you can take any cottage. The only problem I have is monitoring. I can monitor the energy usage, but the water comes in for the whole site. So it would be very difficult to tell whether that any particular cottages diminished its water use., because I can't measure those individually, only their energy. Equally, this cottage up here sleeps eight. Next week they maybe four people in it. The week after they may be five. So, the numbers of people using the resources and energy – if it's really really hot then they won't have anything switched on, if it's cold then everything will be racked up and the energy will be really, you know. So I would find that really hard in my environment here. Whereas if you've got a hotel room for two mostly you have two people in it, and if you have one you can easily say well there was only one. Equally those people would only have access to that radiator, that tap, and so on, whereas mine, you've got two-three bathrooms, they've got showers, they've got baths – it would be really hard for me to say if that [pointing at signs in front of her] actually changed anything, they're would be no control. I am more than happy to help you out in any way I can but I can't see it would be very valuable in my environment here

because it would be very difficult to monitor. But I could do it by asking the guests at the end of the week, what they thought and whether it did influence them at all, I would be happy to put a survey in there and say 'we're working with a project from Falmouth University, on sustainable tourism, you know, could you answer these simple questions, 5 questions or something. I am happy to do that, but I don't think I can get you accurate figures.

I: No, it's ok, I am not looking for accurate figures necessarily. If you think this is something we could do by *asking* the visitors after their stay here – if they thought this message was effective indeed, if they liked it, if they disliked it, what is their opinion, did they influence their behaviour at all - that would be great.

PB: Yes, sure, no problem. I am quite happy to do that.

I: This interview has reached to an end. If you have no further questions, I would like to thank you very much for our discussion today. Rest assure that your business will be fully credited in my research, as a business that help my research that tries to promote sustainable tourism.

PB: No problem, I am quite happy for you to talk about us.

It's difficult joggling at this perception of quality, and saving energy and resources. Because part of the guests in their psychic they're hardwired to think you're just being a [inaudible], you're being mean, you know, you're depriving me of something I've already paid for.

I: This last comment of yours will lead my research towards new directions of thinking.

PB: [laughs]

I: Definitely, because it's what you say, it's our attitudes of what we think is good, of what we think is convenient, of what we think is beautiful – our perception of well-being that creates, more or less, a negative impact on the environment. Our perception of the biggest head shower, as you mentioned before, as our well-being.

PB: It is, and that is the biggest joggling that I have in here. To look at everything, so people buy my holidays from beautiful photos on the website. It has to *look* good compared to the next place down the road, but it's really hard to make that fit with saving energy and resources. Shopping becomes very difficult, it's been a long time training myself to try and shop at places that are ethical, products are sustainably sourced, you know – when you go shopping it gets twice as hard.

I: Thank you so much for today; your place is beautiful!

Interviewer: Nikos Antzoulatos

Participant: ███ – owner of ██████████ guest house.

Acronyms:

I = Interviewer

PC = Participant

I: First of all, let me thank you once again for accepting to do this small interview. I really appreciate your time and concern.

[At this introductory point, the participant is asked to describe how they entered the accommodation provision business. Starting the interview by encouraging the participant to talk a little bit about themselves, is an established way to initiate a positive atmosphere within the interview and "develop the rapport between the interviewer and interviewee" – also known as an "ice-breaker question". Thus, the introductory point from 01:40 – 03:40 will not be transcribed because it is irrelevant to the focus of this research].

[http://www.monash.edu.au/careers/students-grads/apply-for-a-job/interviews-sample-questions.html]

I: I know that you have completed my online survey, and thank you very much for that, but I would like to ask you again a couple of the same questions. So, I was wondering if you have any green initiatives specifically related to sustainable touristic behaviour. Is there anything you do to encourage your visitors to engage in environmental friendly practices during their stay at your business?

PC: I think the main one is recycling. Encourage people to leave their recycling behind – I mean, they don't have to participate greatly in that but we always say to people 'we actively recycle' so do leave your newspapers, and your bottles and your plastic in one place and we will deal with them later. We do that *for* them and we encourage them to leave their stuff behind. We have heard of some practices were people are encouraged to take them home with them to dispose them, but we wouldn't do that – we actually recycle ourselves, so I suppose recycling is one thing.

Another thing is that we have jute bags hanging in the wardrobes …

I: What is that?

PC: Jute – it's biodegradable; we hang the bag in the wardrobe. We tell people about jute, it's biodegradable, it's environmentally friendly, we encourage people to use that rather than use carrier bags, and if they want to buy one at the end of their stay they can buy one for five pounds if they want to.

Also we put our environmental policy in our room information.

I: Is that gathered in one place, such as a booklet?

PC: Yes, yes. Just for them to read – and we mention that we use environmentally friendly cleaning products, and that we conserve rainwater to water the garden the plants, things like that. So, we don't bully people into being environmentally friendly but we sort of try to appeal to their conscience. We say we are focused on being environmentally friendly, we hope that influences them. We tend to do it very gently rather than being too specific.

I: So it's more verbally than, for example, having a sign that asks people to do something?

PC: Yes – we're not lovers of signs as I mentioned to you before, but we do have a sign for towels and we tell everybody that we change towels every three days, but if they would like their towels changed more frequently than this, then they can leave their towels in the shower tray.

What we say is that we try to balance care of our guests which is first and foremost, with care for the environment, and it's not that the environment is second [laughs] but you know, because of our own philosophy of looking after people we put people first. We wouldn't like to have people having wet dirty towels, so if need be we would wash them every day but as a baseline we suggest that we wash them every three days.

I: Right. In a way, you have already answered the following question but is it possible to explain to me again the reason why you wouldn't use a sign that promotes environmentally friendly behaviours?

PC: Traditionally, guest houses, hotels, B&B's, they were full of signs. There would be notice boards, there would be 'please wipe your feet', 'please close the door quietly', …

I: … 'Please, don't breathe' [laughs]

PC: Yes, exactly [laughs]. We must have 'no smoking' signs, and we do have one small notice on the front door for security purposes, but really there the only two signs that we have, other than the sign about the towels. It seems like old-fashioned to have signs everywhere, and we want people to feel relaxed, to feel at home, and we don't want to be directing people all the time, verbally or non-verbally. We always tell people 'this is your home for the next week', 'it's your room, your place to stay'. So, it's all about to make people relax and feel at ease.

I: That is lovely. What I would like to do now, is show you some conceptual messages I have been working on; these are not just words randomly assigned on paper but they are based on contemporary academic theory on communicating & influencing sustainable behaviour.

So, I will be showing you a conceptual message and after each message the same set of these three questions will be asked.
 Just let me know about the first thing that comes into your mind – do not worry about trying to give me a positive feedback; a negative feedback is equally important for my research – it all helps.

PC: There is a saying that says 'There is no thing as negative feedback - there is feedback' [laughs].

I: Let's start with the first one. As theory says "We 'go with the flow' of pre-set options". It is an insight from Behavioural Economics, that describes the tendency of people to going along with the default option presented to them. This message is designed to utilise this insight; by default the hotel does not change the visitor's bed linen unless they place the card on their bed, unless they affirmatively choose to opt in. So, using the principle of 'default' the hotel's resource-consumption is reduced & promote environmental and

economic benefits. **What do you think about this sign? Do you think it would achieve an environmentally friendly behaviour?**

PC: I actually quite like the idea because it puts a lot of emphasis on the guest without telling them to do something. It's inviting them to do something – and I like the word invite. And it's like a confederate approach – it's not just the hotel doing it or just the client, it's both. I guess it probably would influence behaviour, but I think you have to think were you're going to put that. When a guest comes into the room in the evening, they tend to put their things everywhere, certainly they don't tidy up – this could be covered over so they're going to have to look for that in the morning to have their bed changed. So if that was placed on a bed it would probably be thrown aside – it's about "go with the flow" but I was also thinking about the guest's process. If they put a cloth or a magazine on it they've got to find it, and it's a prompt, it's a memory prompt, so they've got to find it, they've got to remember to put it on the bed to have their bed changed, or they might say 'oh, our bed is a bit scruffy today, we need it changed, where did you put that card'. So, it's where are you going to place that card, it's not just having it, it's where its going to be. So that's one point – I would say 'conserve' *what*? What are you conserving – energy? Precious resources? I am critical when I read something. I was told at a sustainability course that I took when I first came here that guests do actually read what you have as a guest's information, they *do* actually read it.

I: If we imagined that you are someone who does want to use a sign that encourages sustainable behaviour, how likely would it be for you to use this one?

PC: I would be more likely to use that that's discrete, you can leave on the bed or on a piece of furniture rather than being plastered on the wall –it's mobile. The downside of that is as I said that it could be covered accidentally by guest's. I do like that it's not stuck on the wall or part of the decor – it's mobile, and I do quite like that.

I: Let's move on to the next set of messages. As theory says "We are strongly influenced by what others do" [referring to Dolan et al, 2012, p.266].

These conceptual messages are based on the principle of 'social norms'; an insight from the areas of Behavioural Economics, Psychology, and Marketing, that describes the tendency of people to look to the actions of most others in a similar situation, to determine their own. As they say, " 'We' is the most important word in behaviour change". These messages have been designed to point out to visitors that most guests in this hotel are already doing the right (green) thing, and invite them to join their fellow guests in doing so as well. Making visible that the 'green' behaviour is commonly practiced here - in this hotel or in this town, *we* act sustainably; that is what is socially accepted here.

Through this way social pressure is created that motivates the visitor to engage in the existing pro-environmental behaviour, because they do not want to stand out of the group (they do not want to be the odd ball in the group).

What do you think about these messages in terms of sustainable behaviour?

PC: I am not so keen on the first one; 'most hotels guests staying in this room' –it might be true but I don't think people would like to know about – I am appreciating what you're saying but this is almost like saying 'this is good behaviour, so don't you dare engage in bad behaviour' [laughs]. It might make people a little bit – not rebellious, but still...

I: ... to oppose to the message...

PC: Yes. I am not sure about lumping – putting people together, guests and guests, do you know what I mean? Cause we say everybody here is an individual as their fingerprints, everybody is special, and what you want, what you say, what you do, matters to us. Not everyone else turns their lights off so why don't you turn your lights off as well, it's not comparing like with like. We personally don't like to do that. This message sounds a little bit authoritarian because it's comparing – it's almost like with children, 'he's a good boy because he washes his hands before he eats so make sure you wash your hands', you know? If I was a parent I wouldn't be saying that, I would say 'you need to wash your hands because of the germs...

I: ... so you would be providing more information about the facts ...

PC: Yes, rather than saying do it because he is doing it. So, I don't particularly like that one. But I quite like this [the second one]; 'in this guest house we save energy' [a nice reference provided from the micro to the macro: the guest – the guest house – the town]. At the end of the day it says, this is our place, this is what we believe in, this is what we do, 'we save energy', and again 'we are inviting you to join us'. So, I can't speak on behalf of others guests but I can speak on behalf of 'we', 'us', as the owners. And I don't mind owning this responsibility of saving energy so I don't mind sharing that with the visitor. We have different levels of lighting; there is light at the sides of the beds for reading, there can be full lighting if needed, there is ambient lighting to create a nice mood. I don't mind how people would use that, I mean, yes I wish they could use less but I don't mind about how they use it.

But what I don't like is when people leave the lights on when they leave the room. And you go in and the TV is on, and the extract fan is on, and the lights are on etc. So, my message would be more about 'Please turn lights off as you leave' rather than 'not using unnecessary lights'. So if I was to have a message in a room, I like this [pointing at the message], 'in this guest house we save energy' or 'we conserve energy' or whatever, we invite you – I like the word 'invite', we invite you to join our effort & turning off the lights as you leave. Rather than *telling* you or using *them* as an example, I rather *invite* people to the behaviour.

I: Any comments on this one? [pointing at the last message of the 'norms' set]

PC: I love 'Falmouth cares about the environment', I hope that's true [laughs], but I think this is a little bit wordy [pointing at the yellow words specifically, 'Join us in... for fresh air'].

I: I tried to use as less words as possible, but it's a tricky situation to describe; people turn the radiator on and leave the window open, how can someone describe this with a few words?

PC: Indeed, it's a difficult one isn't it? But if you could get that a little more concise would be good. Also, I don't like this [pointing at the paragraph that read: 'Being a green visitor makes you a great person and we love you for it']. It almost says, we only love you if you are a green visitor, do you know what I mean?

I: Yes, I see your viewpoint.

PC: And that's only a matter of opinion, that 'being a green visitor makes you a great person', someone could argue that and say 'well actually, it doesn't'; 'loving dogs' makes you a great person – of course, we could argue about anything can't we? But any message you make you've got to make it as least inflammatory and argumentative as you can. Some people would pick holes and pick arguments about anything but I need you need to reduce the likelihood of that. If you want people to be on board with it. Personally I think the best way to do it is to *invite* people: 'this is what we do, and we own that sort of responsibility (we own the building, we own the responsibility) and we are inviting you to share that with us. So, that one [pointing at 'In this guest house we recycle' sign B2] works for me better than the other two [B1, B3].

I: Right, let's move on to the third set of messages. It is an interesting one. Theory argues that we seek to be consistent with our public promises and reciprocate acts. So, these messages [displaying the commitment statement, in combination with the personalised messages C1, C2] have been designed to increase the likelihood of hotel guests to practice pro-environmental behaviour during their stay, based on the principle of commitment. It's based on a recent experiment: During check-in, visitors were asked to voluntarily commit to join the hotel's current environmentally friendly efforts, by publicly signing a statement to re-use their room towels during their stay. Signing was just a matter of ticking a 'Yes' or a 'No'.

Tourists who actively expressed their commitment to be a green visitor during their stay, where significantly more likely to engage indeed in the desired pro-environmental behaviour than guests that were not presented with the commitment choice at all. (Baca-Motes et al, 2012).
This is the principle of commitment, and that is what these messages are based on.

Therefore, if a guest says "Yes" I would like to be a green visitor then my idea is to add this personalized message (pointing at conceptual personalized message C1, C2) that will be placed in their room. The hotelier fills in their name, for example if "Chris" the visitor says yes, then "Dear Chris, thank you for accepting to do your best to save water and energy by reusing your towels during your stay. Being a green visitor makes you a great person and we love you for it. Have a great holiday in Cornwall."

The idea behind having a personalized message and having the visitor see their name on the sign is based on theory that says that it increases their sense of personal responsibility. So, in a way it the visitor takes ownership of sustainability – it makes green behaviour a more personal thing. Because it is a different thing seeing "Dear Chris" on the wall, and different seeing "Dear visitor".

As you see, we have two principles in conjunction: the principle of commitment, and the principle of personalisation. What is your opinion about these messages? Let's start with the commitment form during check-in.

PC: I do like that approach. It has got to depend on the receptionist, how the receptionist actually puts it across. The receptionist would have to be on board with it. And not roll their eyes, if they don't agree with it – 'I'm sorry but I have to ask you to fill this', you know, that's giving a very negative message. If they can positively say, 'Oh, here at ABC hotel we're doing our best to being environmentally friendly, we would appreciate if you could join us in our effort, have a read at that, do feel free to take it, but it's absolutely no problem if you'd rather not.' If you put it across like that the other person doesn't feel shamed into doing it. You can't have a mismatch of the verbal message and the written message that the receptionist is giving you – the non-verbal of rolling her eyes, body-language! It's got to be congruous. So yes, it depends on how the receptionists 'sells' it, and also I wouldn't like the guest to feel shamed into doing it, - because you're standing there, behind a desk, there's a barrier there, you don't have to necessarily be taller but you are in a position of authority, and the guest is there *as a guest* and might feel pressure into doing that, so it depends on how one sells it. But I do like that, the only thing I would question is 'I'm staying here for two weeks , does this mean that I would have to re-use my towels for two weeks'.

I: Exactly – do you have any suggestions on how to make this more clear?

PC: How we would do it: 'We normally change our towels every 3-4 days...as a green visitor I would join blah-blah-blah...and if I want my towels changed more frequently I will request that.' So, they need to know that their towels will be changed, and that it's sort of our protocol to change towels every three days, however, if you want them changed more frequently – so, what you are asking them is 'would you comply with that?' I mean, that's what we do. We've had people come and, you know, we don't show them the message but the message is clearly there in front of a towel, when they take the towel they have to see that, whether they read it or not I don't know but it's right in front of the towel, but they would still put their towels in the shower tray every day. And if we've said that we will change them if you've asked us to then we change them. Cause those people really don't want responsibility, they're paying for their stay, they want clean towels every day. So, how can we influence that?

I: Of course.

PC: But I think you can't look at influencing 100% of the people, but if you are influencing 40-50% that's great. So, I like your message but I would put back the frequency of the towel change. You don't want them to have too much to read obviously, I think the receptionists would have to say that verbally instead of reading it, as you did with your questions here, you told me your questions but I could read them as well, so I think it should be a bit of both.

I: Very good. What about these personalised messages which are in conjunction with these ones - they are the same idea as before but this time it doesn't say *'Dear visitor'* but *'the name of the guest'*. What about this more personalised approach, do you think it would make a difference?

PC: I think this is good practice anyway. When you are communicating with a guest I think it's good to use first names. In big hotels it tends to be a bit more formal, when Mr. & Mrs. Jones checks in, it's Mr. & Mrs. Jones, you wouldn't say *'what are your first names? Can I call you Carol and Bob?'* That has never happened to me in a large hotel. But here, we always introduce ourselves with our first names and our guests do the same. Even when I am taking a telephone booking I always say *'You are speaking to [name]', 'Is it alright to call you Carol?'* You know, so it's being polite. So that needs to go all the way through, not just when you're leaving an environmental note for them. I mean they say that don't they, in terrible hostage situations, they that part of the psychology is to give your name to the person who has taken you hostage because you then become a human being, you are a person.

I: That is a fantastic insight! Thank you for sharing that with me. And it links in a small way with this concept.

PC: Yes, you are a person, not just a guest; you are a person, not just a hostage.

I: It creates a different kind of attachment.

PC: So, yes I like that personalised message.

I: This is a very interesting one [pointing at the priming messages] and I would love your opinion it. What theory says is that "Our acts are often influenced by sub-conscious cues." [Dolan et al, 2012, p.266).

According to the area of Evolution & Human Behaviour, "people increase their levels of cooperation when they know their behaviour is being observed by others" therefore displaying cues of being-watched can "motivate cooperative behaviour" [Bateson et al, 2006, p.1; p.2].

For example, they did a research at a university; they used an 'honesty box' (a small box used to collect any economic contributions for using tea, coffee and milk) as the focal point for their social experiment, and attached "an image of a pair of eyes (...) looking directly at the observer" on the sign that indicated the suggested prices, located right above the honesty box [p.1]. Over the weeks, they discovered that this "small tweak" had a "staggering" effect on the department's behaviour, by dramatically increasing people's voluntary contribution for using the commodities provided [Payne, 2012, p.95].

"We act as if we're being watched."; "However odd it seems", an image of a pair of eyes staring at the viewer "can evoke deep-seated responses in humans" [Payne, 2012, p.99; p.94], and have a significant effect in motivating the viewer to engage in "cooperative behaviour" [Bateson et al, 2006].
Therefore, these messages apply the behavioural insight of 'priming', to motivate pro-environmental behaviour of hotel visitors.

What would your opinion be on these ones? Do you think they would encourage visitors to engage in environmentally-friendly behaviours?

PC: I guess the research seems to suggest that it would. How do I feel about it? It's almost like policing, do you know what I mean? I think it's very powerful. This [pointing at the priming message with the smaller image of eyes] isn't so threatening as this one. This is threatening because it seems to be very prominent, and the eyes seem to be the biggest part of the message, whereas this [pointing at the priming message with the smaller image of eyes] is like a little reminder of 'I'm watching you' sort of thing. But it still feels a little bit like policing, almost like 'We will be going through your bins and making sure you haven't thrown away any plastic in there' [laughs], there is a little 'we're watching you', Big Brother sort of thing.

I: Right.

PC: I can see that it would work [small pause].

I: Let me put it another way. If once again we speculated that you are a hotelier that wants to use messages, how likely would it be for you to use this one?

PC: If I really wanted to get the message across and make something happen, I would use it.

I: Do you think it is appropriate for the context of tourism? For example, in the context of neighbourhood security it most likely is. What about tourism?

PC: Good point. To be honest with you, in terms of security yes, because that's absolutely essential, but I think it is a bit harsh and bit severe for tourism and environmental behaviour. Because, OK, of course environmental behaviour is important and we should be influencing it but it's not as important as security is, safety. So I think, if I really wanted to get the message across I would, but I can't see that I would use it in this context here.

I: OK. Is there something you would change in terms of wording? You said before that you liked the smaller version of eyes.

PC: Yes, this is a bit too threatening. Almost like – they do things for benefits fraud, people that are claiming from social security but are working part-time – that would work really well with that I think. I think if you're going to have one with eyes on it, it should be small and discrete. I think there should be an 'of' there, 'please dispose *of* your sanitary items in the bins provided'.

And also, have you looked if disposing of your sanitary items in the bin, is environmentally friendly? Do you know what I mean? I don't know what else you would do – I suppose yes, you could flush them down the toilet, which certainly isn't a good practice here because we've got very old plumbing systems.

I: Actually, it is an environmentally friendly behaviour because otherwise it goes into the sea – do you know Surfers Against Sewage?

PC: Yes – I see, that's the sort of thing where their arguing goes for, OK. If that is the case, I don't know if eyes fit into that context, because it is very personal isn't it? In the bathroom, eyes watching you, making sure you put those very personal items in the bin, do you know what I mean? [laughs]. I think you might want to ask a female how does she feel about it, a man's eyes watching her [laughs]. Maybe there is an agenda here for such a personal issue.

I: That's a very good point. We are nearly finishing. This message is based on the findings of an experiment that demonstrated that "the same argument that 'recycling is important' was viewed more favorably simply when the sign also acknowledged that recycling could be inconvenient."[referring to the study from Werner et al, 2009].

This message has been designed to (reduce reactance and defensiveness towards the message and thus) elevate the compliance of your guests with the request of recycling by acknowledging people's obstacles & complaints about recycling.

What is your opinion on this message? From your personal view do you think it would encourage a sustainable behaviour?

PC: Personally, I don't think that recycling is inconvenient – I don't know about that word 'inconvenient', but I do appreciate that if research has been done again maybe people do perceive it as being inconvenient, but I think that message sounds a bit like an assumption. I mean you can only assume from the research can't you? You have your research there you have already made an assumption, that research is suggested that is inconvenient, but I don't know whether people want to hear that message.

I: What do you mean about that?

PC: That, I know it's inconvenient to you but is also important – how do you know it's inconvenient to me? Cause no one is going to be there to say what research says, so I don't know if you can assume that is inconvenient, it may be – I am just wondering if there is another way of wording that, like 'we don't wish to cause any inconvenience, but we consider it important to recycle'. You know, rather than making the assumption that it *may* be inconvenient, it might not be...

I: ... I understand.

PC: Yes?

I: Sure. Definitely.

PC: It's better saying 'we don't want to cause any inconvenience but we feel it's important to recycle' – again I don't know if this is the correct wording but it's like saying 'we acknowledge that it might be inconvenient' – I think that message says 'Oh, I am sorry if its inconveniencing you but you know, it is important'. Again it sounds a little bit hard, authoritarian in a way cause you're assuming that it's inconvenient. I don't know of another way to put that, Nikos.

I: No worries.

PC: It's a completely different statement made but it would be like saying 'I know you might be elderly but – your eye sight might not be good but we have low-energy bulbs' – I know that's an extreme but, you know, it sounds like an assumption. Therefore, I don't know if that works as a message.

I: So, as far as I understand if you were looking for a message you wouldn't be using a message like this one?

PC: Not that as it is worded there. I would rather say 'we wouldn't like to cause any inconvenience, we don't want to inconvenience you but we see recycling as important. And again, we invite you to ...

I: You really like the word invite?

PC: Yes [laughs]. And I have to be honest with you, I haven't considered that before, until I read that, the word 'invite'. Did you give you our green policy? I will print one off for you. We haven't used the

word invite in it, and i really like that, and if we will re-word it I will definitely use that. Our message, without being very specific is saying, 'this is what we believe, this is what we do, we're asking you if you would like on come on board with it. It's very gentle, it's probably not strong enough, but is certainly inviting it's not telling you to do it. And some of your messages are about telling people to do it, some of them are policing, this [pointing at the 'Validation 1' sign] I think is a big assumption.

I: Very good. Let's move on to the last set of messages. These ones are based on what theory calls 'creating a mental badge' in the minds of people, based on the insight: "Tell people they care about the environment and they might start acting like it" [quoting Rachel James, 2010, p.6] "because they've started wearing a mental badge that says 'I care about the climate'. " [quoting Futerra, xxxx, New Rules: New Game]. I would like your opinion on these two messages.

PC: I do like that theory. Again, I think it's an assumption. How do I know you care about the environment? How do I know that? I think it sounds a little bit condescending. You know, I sometimes go running around the castle in the morning and I can't believe all the litter that I see around the car park, and I think 'How can you sit there and eat fish & chips and coke, and look at this beautiful ocean, in a country side that is an unspoilt piece of land, and then throw your litter and drive off?' So, those people may love the view but I can't tell you that they care about the environment. So, I don't know if we do know that people care about the environment – they might love it here but we don't know if they care about it. So, again, I think that's an assumption and I think it sounds a bit authoritative and condescending to say 'We know'. 'We hope you care about the environment as much as we do' – and I think in our green policy we have said something like that, and may want to have a look at it. 'We hope you care about Falmouth as much as we do'; 'Please save some energy' – that is a request, that is fine. I like this 'Thank you, Have a great holiday' and the smiling face. Again that is a badge isn't it? I don't use smiley faces but it has become part of our communication, hasn't it?

I: Actually, they say that using a smiley face in your message can convey social approval. If you had to choose a sign, which one of those two [referring to the D2 and C2; black, save some energy, & doted one] would you choose?

PC: We wouldn't want to interfere with our décor, but if I *had* to put something on the wall it would be something that is a little bit more gentle. Although this one [referring to D2 sign] stands out and you want it to stand out, if a guest is really into the aesthetics they would want a sign that at least blends into the background of their room.

I: That is actually one of my main considerations. Do I really want signs that stand out from their surrounding environment or do I want them to blend in? Because on the one hand they *have* to be noticed in order to work but on the other, they should not catch your eyes all the time. So do they blend in or do they stand out?

PC: It is really tricky, isn't it? In fact that almost a separate piece of research, you know, what do people respond to. This research also wants to influence the behaviour of hotel owners in terms of getting the environmental message across because if they don't like these [signs] then they won't put them on.

I: So we have many viewpoints on a single message: the hotelier's viewpoint, the guest's viewpoint...

PC: Exactly, and maybe this could be one of your recommendations for further research, cause there's always those isn't there?

I: Yes, there are so many questions that will definitely remain unanswered through a single research.

PC: So, personally, I would use this one [point to the second sign], because it seems more calm, and has more natural colours, you know, green always relates to the environment. This one [the sign with black and yellow colours] looks like a warning sign – you know when if there is something like a crime scene or a building work and you want to draw people's attention to these black and yellow signs, or hazard signs.

I: Right, that's fantastic! Would you have any comments on these two already existing pro-environmental messages – these are not my concepts: this one is from CoaST and this one from LEAP design agency.

PC: What I like about this one is the humour. There must be a theory somewhere about humour and influencing. I like the humour. I think instantly someone would read that [taps fingers persistently on sign] and wonder: "what's this about then?" And then turn the sign and read that it's about the environment. I think the wording of that it's more likely to capture someone than colours , size, whatever. It's the wording, people will become inquisitive about that and I love the words "special corner", in our environmental policy we've also used that words. This also backs up the assumption, you know? We know we have a beautiful landscape, amazing beaches, we've got a wealth of wildlife – we know we've got that and it won't be long before you start loving it as well. So, backing up that assumption with a rationale, if you see what I mean. The other thing is that this sign is a nice little card that can stand on its own on a desk like that, they're moveable, they're not static, stuck to the wallpaper or paintwork, you can hide them away of you need to, or if a guest don't want to see these signs all the time they can just chuck it away. Because if they're not going to comply or, you know, come on board they're not going to comply anyway so they would want to get rid of that sign, and if it's just standing on a table then they could.

What I like about this one [points to CoaST's towel card that employs social norms] – I am not sure about: "Join our thousands of visitors already making a difference", I sounds like the good boy/ bad boy we saw in the other sign, but what I do like is the imagery. I think it's nice to have a nice image on a sign. But this image here with the nice, fluffy towels would make people want to have nice, fluffy towels so they are not going to reuse them afterall! [laughs]. You see what I mean?

I: [laughs] That's an excellent point! One last question before our interview comes to an end: So, all this thinking is consolidated into a website, a digital platform for the Cornish tourism industry that can get science-based messages that can encourage green behaviour from their visitors. I would like your opinion on the order process. Let's say you are someone that would like to use the website and its messages. Which option to

receive your pro-environmental sign would you choose? WHY? There are two ways for getting the messages (two options for the order process). I would like to describe to you both options & if possible, have your comments and feedback on them:

1. **'Here & Now' option:**
   - **Enter the website**
   - **Choose a message**
   - **Download it as a picture**
   - **Print it through your printer (e.g. – provide an example of simple printed paper)**
   - **Place directly the printed-message in your business context (right away)**

2. **'The postman' option:**
   - **Enter the website**
   - **Choose a message**
   - **Enter a shipping address**
   - **After some days, receive the message printed (different/higher quality printing) at your post**
   - **Place the message at your business context (it takes a few days)**

PC: I think I would go for option 2, because if you had option 1, most people's paper quality isn't that good, the printer might not print it so well, and what would you stick it on with? Is it going to be selotape, blue tag, strong glue? Would it fade? I would rather order a proper sign, waterproof, so not just printed on card, rather be plastic for example, so that it lasts.

I: Right. This interview has reached to an end, and if you have no further questions I would like to thank you for your time and contribution to my research.

PC: No worries – thank you.

Interviewer: Nikos Antzoulatos
Participant: ███ – owner of █████████ farm cottage

Acronyms:

I = Interviewer
PD = Participant

I: First of all, let me thank you once again for accepting to do this small interview. I really appreciate your time and concern.

[At this introductory point, the participant is asked to describe how they entered the accommodation provision business. Starting the interview by encouraging the participant to talk a little bit about themselves, is an established way to initiate a positive atmosphere within the interview and "develop the rapport between the interviewer and interviewee" – also known as an "ice-breaker question". Thus, the introductory point from 00:29 – 03:20 will not be transcribed because it is irrelevant to the focus of this research].

[http://www.monash.edu.au/careers/students-grads/apply-for-a-job/interviews-sample-questions.html]

I: I would like to ask you about any 'green' initiatives you might have in relation to sustainable touristic behaviour: is there something you do to encourage your visitors to behave sustainably during their stay?

PD: Our whole site is geared up to be self-sustainable in energy and water and we sell ourselves on that, all of our marketing and PR projects ourselves as a sustainable tourist site. As soon as customers look our website those messages are up there already. Then, when they actually arrive we have a guests welcome folder, which includes ways to have a greener holiday, because we've got only green sustainable heat sources and all of it, they can help but being involved whether they want to or not. So, if they want a hot tub it's a wood burning hot tub, and they have to be involved in lighting the wood and tending the fire.

I: So, the whole accommodation environment is pre-set to be sustainable, so guests have no other choice but to be environmentally-friendly?

PD: Yes.

I: Where do they find this folder you mentioned?

PD: It's sitting on their table when they go in along with their welcome leaflet, so it's all there, altogether.

I: Nice. Do you use in your business context any signs that encourage proenvironmental behaviour from your visitors?

PD: The only thing we have got is to ask people not to put sanitary waste down the toilet.

I: Where is that placed?

PD: In all of the bathrooms by the toilets. Most of them are white and red because I believe that stands out more, but generally we don't like our place to look labelled. The whole idea is that it's a relaxing place without being instructional.

I: Indeed, that is also a concern in my research project, because on the one hand you have to create messages that attract visitors attention, but on the other, the message has to integrate with the aesthetics of the environment, so how can one manage this balance?

PD: We've put some other signs around our place but they have been done creatively. So, instead of having a sign up that says "Do not drive into the ditch", we've put lots of little white rabbits all along the ditches so people won't drive over the little white rabbits. And where we've have put signs up we try to use natural materials, so wood or sleight or granite, so it ties more with the materials we've used for the buildings. And also that lasts more than paper, doesn't it?

I: Indeed. Here are some conceptual messages I am working on, and I would like to ask for your comments, feedback, and if possible some suggestions for improving them. Let me remind you that any feedback, even negative, is helpful for my research.

Let's begin with this one [showing sign A]. Theory says that people tend to go along with the default option that is presented to them. So, this message is designed to use this insight –it lets guest know that, by default, the hotel does not change the visitor's bed linen *unless* [verbal emphasis given] they place the card on their bed, unless they affirmatively choose to opt in, as you also mentioned before. What do you think about this sign? Do you think this encourages guests to engage in pro-environmental behaviour?

PD: I think it's quite plain and informative. It's quite clear. What I've been thinking about recently a lot is as all of us get older people's eyesight is fading and you can't read smaller print or certain colours. So, any signage needs to be very clear and – that's why I haven't put my glasses on to read any of these messages because walking around in their rooms, going to the bathroom for example, would not have their glasses on normally, so I think it's very important that you can read things, so this sign is very clear, you can read it with no glasses on, I think it's nice that it says "please", invites visitors to join them, it has a personalised language. I think the difference between it and the CoaST one, is that the CoaST one's more beautiful, it visually catches your eye more, but the writing is quite small. I love the image, it's a really nice image, whereas this is quite texty. I like though the green, it relates to the environment, and it's not quite wordy, that's positive.

I: Is there something you would change or rephrase?

PD: I think the danger with all those sorts of cards is that they can get lost or accidentally left somewhere, so people got to be pro-active to make it work. But generally, we don't use this kind of cards [towel reuse] because we don't change linen or towels until the end of the week, because we are holiday cottages, so we don't do that every day.

I: Right. Let's move on to the second message [pointing at sign B]. It is in the same category, the social norms category. Theory says that we are strongly influenced by what others do, so these conceptual messages are based on this principle of social norms, that describes the tendency of people to look to the actions of most others in a similar situation to determine their own: 'We' is the most important word in behaviour change.

This is what these messages are designed to do: the social pressure motivates guests to engage in environmentally-friendly behaviours because no one wants to be the odd-ball

in the group. What do you think about these signs? Do you think they encourage guests to engage in pro-environmental behaviour?

PD: So, the first thing that comes to mind looking these three messages is that the bottom one: "Falmouth cares about the environment. Being a green visitor makes you a great person and we love you for it. Have a great holiday", is very informal, and friendly and makes people feel good about doing something, but "Join us in creating a positive footprint" is a bit formal and academic. So there is a mixed language here. I think this [the latter sentence] needs something like "Join us in saving energy" or something much simpler. And that is the language I would use in ██████████, because we're small, intimate, friendly.

I: Right. Any comments on the first two ones?

PD: I don't like the "It is important.", it sounds like a school-teacher, "Don't do it!".

I: So, a bit fingerpointing?

PD: Yes, and I think a "Thank you for your help" would make it sound more friendly. It could be simpler than this, like: "In this guest house we try to save energy" ... – I am trying to think, it would be great to have, wouldn't it, something like Dark Skies project in Scotland, which are recognised like National Parks are, Dark Skies, no light pollution, they are promoting that, and it's becoming a term that people are recognising, "Dark Skies, Switch the lights off, Look at the stars, Enjoy" and I think it would be great to have a catch phrase like that to say switch your lights off without actually saying it.

Like, this is just too wordy: "Join us in creating a positive footprint and reduce your radiator heating when you open the window.", you see, people would find that impossible to do in our place because we've got – and a lot of hotels would not have, do they have thermostats? Some of them have, but for us, we've got under-floor heating so you can't quickly adjust that temperature.

[Here, participant comments for a while on certain colours used in conceptual messages, but since this is not a research on visual graphics but on language, the interview transcription for this part is skipped].

I: Let's move on to this, this is one of my favourites. It builds on what theory says: "We seek to be consistent with our public promises, and reciprocate acts" [referring to Dolan et al, 2012, p.266]. So, this message has been designed to increase the likelihood of hotel guests practicing pro-environmental behaviours during their stay based on the principle of Commitment.

This builds on a study where hotel visitors, during check-in, where asked to voluntary commit to join the hotel's current environmental practices, by publicly signing a form that asked them to re-use their towels during their stay, and when I say publicly I mean the people at the reception – and it was effective. Tourists who actively expressed their commitment where significantly more likely to engage in the desired pro-environmental

behaviour than guests that were not presented with the commitment choice at all. So, that's the idea behind it.

What is your opinion on hotels using this Commitment form during check-in? Do you think it would encourage tourists to be green during their stay?

PD: My immediate concern with that is that it's going to create a lot of paperwork. Now that we've got so many apps, people could just sign on a screen, yu know, by producing all these bits of paper you create more environmental waste than – that's my belief, everything is becoming more technological, and again if it's a phone app, it could say "Tick this", and also show their reward for doing that, "a free night stay in our hotel" or something.

I: Would you generally adopt an initiative like that, rewarding customers for their pro-environmental behaviour?

PD: I think it's good, I think it's a good way of actually of getting people to engage a bit more. So I think most marketing strategies do offer rewards, you know, that's a way of communicating with people. So I think if hotels are going to bring in something like this and encourage people to actually take the time to read one, I think it needs to get on to tablets and – everyone carries a mobile phone, somehow you invite people into it. That's one idea.

I: That is a nice idea, the medium could be tangible or digital. But what about generally the idea of asking your visitors to commit?

PD: I think if I was going to sign something like this I would like to know what are their environmental efforts? So I would be looking for a list of what ABC hotel does for the environment. Not only committing to do this but also – maybe because I'm in the business, I would like to see a list of top 5 things they do for the environment. If you are going to print a piece of paper and have people to see it you are going to have the big message, but you could also have the sub-message which actually is much more informative, which would give visitors more to consider.

I: So, what do you think about this one [pointing at the next conceptual sign]? This one expands the concept of commitment by adding another element to it: personalised communication. So, I was thinking that if this works [pointing at the commitment form], if someone agrees to say 'Yes' to this commitment then they would find this personalised message in their room. Instead of a faceless 'Dear visitor', the message would have the actual guest's name on it, and once they entered their room they would see that waiting for them.

PD: Well, I think you need to put these [pointing to the Commitment form] in guests' room whether they sign them or not.

I: Why is that? Please let me know more about your thinking.

PD: Because, I just feel that people turn up, perhaps they've had a long, busy journey, they just wanna get to their room, they don't want to be [inaudible] perhaps, and they might say "NO" initially. But if this is their room, they might say "Hmm, alright", having had a nap or a cup of tea, you know, they might reconsider this [tapping on the Commitment form].
In regards to the personalisation, I think, possibly, the problem for us is that we already do that by leaving a message for people when they arrive – I think people like seeing a card saying "Dear John

and Helen, welcome", thank you for choosing ABC hotel, visitors can appreciate the fact that you've taken the time to write their name down, but in bigger hotels that would be so time-consuming, who is going to write down all those names?

I: That's the beauty of smaller places.

PD: Yes, definitely. So, I think that this is a much more productive way, rather than having lots of signs by the lights, by the toilet, to actually have one thing – thinking about it more I could imagine us putting something like this [the Commitment form] in our welcome folder, and put it on the main table in the individual cottages, otherwise it would get lost.

I: So, how likely would it be to use the concepts of Commitment and Personalisation in your business context?

PD: Yes, we already do these things. I think we have been shortlisted for the Cornwall Sustainability Awards, and we've got two sets of visits coming and I was thinking I got to produce something like this for the next week coming, so this is ideal! You can't put signs up by every light saying "Please switch the light off", but I think this is actually a good idea. I think that bigger hotels wouldn't adopt this idea because of having to put different cards in, and you can get them mixed up, what if the cleaners leave them behind, it's the wrong name – so, I think you can still have this friendly approach.

I: Right. I was thinking maybe I could help you with your communication needs for the coming visitors, and create some signage for you based on these principles, and maybe test it in your business context while your guests stay there – only if you agree of course.

PD: Yes, but we would have to do that really quick because they are coming soon.

[A discussion takes place on time management agreements]

I: Let's move on to the next concept. This is a very interesting one, i would love to hear your opinion on this one. So, theory says that "Our acts are often influenced by sub-conscious cues." [referring to Dolan et al, 2012, p.266]. According to the area of Evolution & Human Behaviour, "people increase their levels of cooperation when they know their behaviour is being observed by others" therefore displaying cues of being-watched can "motivate cooperative behaviour" [referring to Bateson et al, 2006, p.1; p.2].

In our case, cooperative behaviour would be pro-environmental practices. So, these messages apply the behavioural insight of 'priming', to motivate pro-environmental behaviour of hotel visitors, by displaying an image of a pair of eyes looking directly at room-guests, and a written-text that invites them to the desired pro-environmental behaviour (turning unnecessary room-lights off). So, once again, the question is: What is your opinion on hotels using this Priming technique? Do you think it would influence visitors to be green during their stay?

PD: I find this a bit intimidating – Big Brother is watching you [laughs]. It makes me feel like I want to cover his eyes up, or throw it in the bin because it's a bit …

I: What's the word?

PD: … aggressive. If you take the eyes away is a lovely message but if you put the eyes in there it becomes sinister.

I: Indeed [laughs]. So, I suppose this is something you would not be using in your business context?

PD: If you had let's say the Mona Lisa's eyes, then yes it would be very attractive but this one looks like a policeman or something.

I: That's a nice idea. A familiar set of eyes?

PD: Yes, try the Mona Lisa, those beautiful eyes, or the girl from the Vermeer paining. You could have a whole set of famous eyes from famous painters, and hoteliers could choose the one that suits their décor or whatever. I would definitely put something like that by my light switches because it's beautiful!

I: OK, let's move on the this concept [Concept E]. It is quite simply actually: This message is based on the findings of an experiment that demonstrated that "the same argument that 'recycling is important' was viewed more favorably simply when the sign also acknowledged that recycling could be inconvenient." (Werner et al, 2009).

This message has been designed to (reduce reactance and defensiveness towards the message and thus) elevate the compliance of your guests with the request of recycling by acknowledging people's obstacles & complaints about recycling.

What do you think about this message?

PD: "It may be inconvenient", this is negative, it's implying it's going to be a hustle.

I: Exactly, validating people's complaints works, at least that's what theory says.

PD: Right, I don't think you should have this message, I feel like it's saying "You need to shop, and it's going to be a hassle shopping in our little village shop", you know, "but it's important that you do", I don't think you should have this message. "It may be inconvenient" gives people the expectation that it's going to be inconvenient, in contrast to "It only takes a moment", "Can I take a few minutes of your day?" or something like that, implying it's not a lot of trouble, yeah?

I: Right, I see your point.

[Again, participant comments for a while on certain colours used in conceptual messages, but since this is not a research on visual graphics but on language, the interview transcription for this part is skipped].

I: OK, So, moving on to the last concept. This is quite simple. Theory says that if we "Tell people they care about the environment […] they might start acting like it" [referring to Rachel James, 2010, p.6] "because they've started wearing a mental badge that says 'I care about the climate'. " [referring to Futerra].

So, what do you think about this concept? Do you think it might encourage pro-environmental behaviours?

PD: I like the "We know you care as much as we do". I also think it's a bit too wordy, it maybe implies that the room air is not that fresh, again there's a slight negative in it, you know. I think it would be difficult to know where to put that sign in a hotel room, i think it's almost like a bit too much, it's almost like getting to the point putting "Do not turn the light on unless you need it" on every lights appliance. I think the sort of more general one that says "Reduce your energy usage", one sign is enough. People may respond to one beautiful sign rather than lots of little signs telling them lots of different things.

I: Indeed, my approach also emphasises the use of few, if not a single, messages in order to avoid overloading visitors with information. Do you think "We know you care" works?

PD: I would say "We all care about the environment", it's simpler and says it all. "We together care about the environment". Again, I think with all of them, i think they need to be beautiful to put them in a hotel room, attractive.

I: Indeed, there is not an emphasis on graphic design on all of my conceptual signs because my research focuses specifically on words and how they influence people's behaviour, and elicitate certain responses. In a sense, the only graphics here are the typefaces used for the words.

PD: Right, yes. Visual language is so individual, that's the problem. I think you are passionate about what you are doing so you need to avoid coming across as too monochrome.

I: That is a good comment.

[Here a discussion on the use of stimulating images in the advertising industry takes place].

I: I have no more conceptual messages I created, but we have one last set of existing pro-environmental messages created by CoaST and Leap Design Agency, both based here in Cornwall.

PD: I like this one [the headline of Leap's message that employs humour], the humour, but it's quite hard to read the rest of it, I'd have to go and put my glasses on to read it, so I'm not going to bother, the message is not going to come through, is it? Which one do you like?

I: If I had to choose one it would be this [referring to the message with the use of a smiley face]. It's very simple, very colourful and it also has this smiley face, there is also research behind using a smiley face …

PD: It's an intimate thing isn't it? We're mates, we can have smiley faces.

I: It's a more modern language that conveys social approval. So, I would use this one it has a personalised approach.

PD: Yeah. I agree, I think this is the best. That's very interesting research Nikos, and having to sit down and justify it with academic research, it's very difficult! [laughs].

I: Indeed, thank you so much. We have finished with the signs. I only have two general questions. So, all this thinking is consolidated into a website, a digital platform for the Cornish tourism industry that can get science-based messages that can encourage green behaviour from their visitors. I would like your opinion on the order process. Let's say you are someone that would like to use the website and its messages. Which option to receive your pro-environmental sign would you choose? WHY? There are two ways for getting the messages (two options for the order process). I would like to describe to you both options & if possible, have your comments and feedback on them:

1. 'Here & Now' option:
- **Enter the website**
- **Choose a message**
- **Download it as a picture**
- **Print it through your printer (e.g. – provide an example of simple printed paper)**
- **Place directly the printed-message in your business context (right away)**

2. 'The postman' option:
- **Enter the website**
- **Choose a message**
- **Enter a shipping address**
- **After some days, receive the message printed (different/higher quality printing) at your post**
- **Place the message at your business context (it takes a few days)**

PD: I would print it myself, because I would want it instantly. Instant gratification, isn't it? But I also like something more solid that I could hang up on the wall, that would be eye catching but beautiful, that matches with our interior design philosophy.

I: Right. So, this interview has reached to an end, and if you have no further questions I would like to thank you for your time and contribution to my research.

PD: Thank you, a very interesting research indeed.

Interviewer: Nikos Antzoulatos
Participant: ████ – Sustainability manager of ████████

Acronyms:

I = Interviewer
PE = Participant

I: Let me thank you once again for accepting to do this small interview. I really appreciate your time and concern.

[At this introductory point, the participant is asked to describe how they entered the accommodation provision business. Starting the interview by encouraging the participant to talk a little bit about themselves, is an established way to initiate a positive atmosphere within the interview and "develop the rapport between the interviewer and interviewee" – also known as an "ice-breaker question". Thus, the introductory point from 00:53 – 03:39 will not be transcribed because it is irrelevant to the focus of this research].

[http://www.monash.edu.au/careers/students-grads/apply-for-a-job/interviews-sample-questions.html]

I: I was wondering if you have any 'green' initiatives specifically related to sustainable touristic behaviour? Is there anything you do to encourage your visitors to engage in environmentally friendly practices during their stay at your business context?

IE: Initially, one of the big things we do as a business, we try to set out to make sustainability easy, and to make sustainable choices easy. So, there is a lot of things we do as a business that enable our guests and our visitors to be more sustainable but they may not always realize it, but there are more active ways in which we engage with them too. So, that could be us offering child activities here, child's entertainment in the evenings, and we will often get people from the zoo to bring animals along so engage them in animals that may live around here, we'll do rock pooling with young children in our child caring department, so we'll take them down the beach and let them explore the rock pools.

We'll do a lot with the kids in that sense but there is other things we do that makes it easy for them, so our rooms for example, our toiletries, are Cornish made and sourced, and guests can have the option to have more traditional bath products but that's what we give them. We do other things like, if you want your towels changed put them in the bathtub, if you want your sheets changed we have a little message card that we leave, we ask them to tell us when they want their sheets changed rather than doing it every night.

I: Would it be possible to see that message later?

IE: Yes, yes – they are the CoaST cards…. So, yes, there are a lot of things, we try to make it easy for guests to have a sustainable holiday.

I: Right. Something related to energy usage or water usage within the room?

IE: Yes, in the rooms in this hotel we have key-activated lighting and electricity, so when you leave the room you take your key with you and everything switches off – so we know that everything is off when people leave their room. And as for like showers, and taps, and toilets we have low-flow, so it still feels like it's a heavy powerful shower but it is actually not using as much water as typically. With our toilets we have dual-flush. In our public areas we have motion sensor lights and things like that.

I: OK. You have already mentioned something that answers my second question, but I would like to ask again: Do you use any signs that encourage proenvironmental behaviour from your visitors? Something that refers to, for example, the way they use energy while they're in their room?

IE: We try not fill our rooms with lots of signs, the general manager here at ▮▮▮▮ doesn't like to have lots of signs around. So, a lot of the way we communicate with our guests is very personal, so it would be when they arrive with us at the front desk, we also give them a tour of the hotel and walk them to their room, and show them around the room and show them how the lights work, and different things like that.

We do have a little sign that we ask our guests to leave on the bed when they want their sheets to be changed, but I guess the main bit of communication we have in a bedroom would be our guest-book. You know, every hotel has a guest book which tells you how to reach reception, the opening hours of the spa, a sample menu for room service, things like that. But what we've done is woven the sustainability messages through that, so we have "Did you know?", and "Top tips" woven through that, so instead of having a whole separate page about our ethos or our sustainability policy, we have little snippets woven throughout the guest book.

And that is how sustainability is woven through everything we do here at ▮▮▮▮ , we don't treat it as a separate subject, it's really just a part of who we are. So, we will give advice on car-free days out for guests, so in our book we'll say 'you can ask for bus time-schedule, and information like that, but we are very much against being preachy about it – people are on holiday at the end of the day, they're not here for an education, so it's about making it easy and making it fit in with their holiday rather than having to work harder or do anything differently.

I: Great. Let's proceed with the messages then. These are some conceptual messages I am working on, and I would like to ask for your comments, feedback, and if possible some suggestions for improving them. Let me remind you that any feedback, even negative, is helpful for my research.

Let's begin with this one [showing sign A]. Theory says that people tend to go along with the default option that is presented to them. So, this message is designed to use this insight –it lets guest know that, by default, the hotel does not change the visitor's bed linen *unless* [verbal emphasis given] they place the card on their bed, unless they affirmatively choose to opt in, as you also mentioned before. What do you think about this sign? Do you think this encourages guests to engage in pro-environmental behaviour?

IE: Yes, I mean this is exactly what we do, so it's something we find works. I am not entirely sure on the numbers, but from our point of view we are not changing linen as often. It's having an impact in that sense. This has been in place for quite a few years now, so I believe it is becoming the norm, for our returning guests at least.

I: Is there anything you would change or rephrase?

IE: Maybe the language is a bit formal. I know when we do our communications with guests we really try to them as though they're our friends and try and steer clear from all the corporate speak. Maybe something more personal, or in keeping with the way the rest of our literature is written – very casual, and friendly, that's how we would phrase something like that.

I: Right. Let's move on to the second message [pointing at sign B]. It is in the same category, the social norms category. Theory says that we are strongly influenced by what others do, so these conceptual messages are based on this principle of social norms, that describes the tendency of people to look to the actions of most others in a similar situation to determine their own: 'We' is the most important word in behaviour change.

This is what these messages are designed to do: the social pressure motivates guests to engage in environmentally-friendly behaviours because no one wants to be the odd-ball in the group. What do you think about these signs? Do you think they encourage guests to engage in pro-environmental behaviour?

IE: I think the first one, B1, the "most hotel guests staying in this room" one, you'd get the cynical guests saying: 'well, prove it'. I think the other two work a bit better because maybe it's a larger pool of people, so a whole guest house we're trying to save energy, or all of Falmouth is working to create a positive impact, rather than this particular room – I think people might get a bit cynical about that, maybe, and say: 'Oh, well they just printed a whole lot of these cards, it says this in every room, it doesn't really make my room feel special', whereas I think the guest house [referring to the 'In this guest house, we recycle' sign], the larger population, it's like: we're in this together, we're coming to stay in Falmouth because Falmouth likes green visitors and we want to be a green visitor, or we're staying in this guest house and there is a population here we want to communicate with.

I: That was a great comment, actually. Is there anything you would change or rephrase?

IE: It is too small – guests within particular room, I'd say maybe guest in this hotel, guest who come and stay with us, yes, that works better. I quite like the Falmouth, the B3, maybe that's because in a language we also use, here at ██████████ it's more like: 'Join us altogether, we like green visitors and we think that's a great thing to be, and it's great that you want to do this thing with us'. Giving that positive reinforcement to a message, don't just tell them to do it, tell them to do it for a reason – it's a warm and fussy feeling I think, it's nice.

I: Very nice. Let's move on to the next conceptual sign. This is one of my favourite. It builds on what theory says: "We seek to be consistent with our public promises, and reciprocate acts" [referring to Dolan et al, 2012, p.266]. So, this message has been designed to increase the likelihood of hotel guests practicing pro-environmental behaviours during their stay based on the principle of Commitment.

This builds on a study where hotel visitors, during check-in, where asked to voluntary commit to join the hotel's current environmental practices, by publicly signing a form that asked them to re-use their towels during their stay, and when I say publicly I mean

the people at the reception – and it was effective. Tourists who actively expressed their commitment where significantly more likely to engage in the desired pro-environmental behaviour than guests that were not presented with the commitment choice at all. So, that's the idea behind it.

What is your opinion on hotels using this Commitment form during check-in? Do you think it would encourage tourists to be green during their stay?

IE: I can see getting some people's backs at it – I don't know, I think some people would feel under pressure to tick 'Yes' regardless of what they think because they think that's how they need to be seen. I think a lot of our guests choose us already because of our commitment to the environment and this correlates well with their own personal beliefs, so maybe it's something they are already aware of and committed to. And I think this would be just another extra thing – I don't know if it would really work that well, I could just see people kind of saying yes, but not having actually much of an impact after that. I think this approach is putting our guests under pressure when we really want them to relax and be on holiday. They come to us to relax and have a care-free time, and we don't want them to feel like we're [inaudible] and saving because they are spending quite a lot on their holidays, and we want them to have a luxurious and indulgent time and it's up to us to make sure that they have that but at the same time we're doing all we can to make sure that that doesn't have a huge negative impact on the environment. So I think it might work in some cases, but I'm not sure if it would fit in with us and how we interact with our guests as well.

I: Right, OK. This one [pointing at the next conceptual sign] expands the concept of commitment by adding another element to it: personalised communication. So, I was thinking that if this works [pointing at the commitment form], if someone agrees to say 'Yes' to this commitment then they would find this personalised message in their room. Instead of a faceless 'Dear visitor', the message would have the actual guest's name on it, and once they entered their room they would see that waiting for them.

IE: Yes. That's something we do. When a guest arrives in their room they have a personalised letter already to them.
I: Is it handwritten like this one?

IE: I think so, or they've typed it out and tailored the letter specifically for them, so for example, it confirms if they have a dog with them where the dog can go.

I: What would the layout of that sentence be? "Dear Helen and John..."?

IE: Yes. "Dear Mr and Mrs" – it could say "welcome back to --- hotel". The sign also lays out a bit of the hotel, if we're going to have a fire alarm that day. Personalising the experience is very important and it does have an impact. I think that people do appreciate that personal touch and care that goes into the communication. Obviously, in a hotel with a large number of bedrooms it's more difficult to do that, I think. We always include a feedback form as well. It just takes a bit of time because we have to tailor the messages to the individuals coming, but that's important because a person will read the message and not feel the person in the room

next door has the exact same letter. That letter is for them about their visit and their stay, it's not the same letter that everyone is getting.

I: Right. Let's move on to the next concept. This is a very interesting one, i would love to hear your opinion on this one. So, theory says that "Our acts are often influenced by sub-conscious cues." [referring to Dolan et al, 2012, p.266]. According to the area of Evolution & Human Behaviour, "people increase their levels of cooperation when they know their behaviour is being observed by others" therefore displaying cues of being-watched can "motivate cooperative behaviour" [referring to Bateson et al, 2006, p.1; p.2]...

IE: Right [laughs].

I: ... In our case, cooperative behaviour would be pro-environmental practices. So, these messages apply the behavioural insight of 'priming', to motivate pro-environmental behaviour of hotel visitors, by displaying an image of a pair of eyes looking directly at room-guests, and a written-text that invites them to the desired pro-environmental behaviour (turning unnecessary room-lights off). So, once again, the question is: What is your opinion on hotels using this Priming technique? Do you think it would influence visitors to be green during their stay?

IE: I find it a little bit creepy to be honest [laughs]. I think this telling people what to do isn't as effective as maybe asking them or appealing to their generous nature or something else. It's this preaching and telling rather than encouraging and enabling people to do things. And I think this switches people off, this "Do this or else" type of communicating.

I: Other accommodation-providers I have interviewed have said that this approach is "too Big Brother" for them.

IE: Yes, definitely! And I think if this is in a female loo with male eyes it's a bit, yeah... [laughs]
I: Yes, indeed [laughs]. So, I suppose this is something you would not be using at all in your business context?

IE: No, I don't think so. Within our hotel, the owners are practical with how things look, which is another reason we've steered clear from lots of signs everywhere about what to do and what not to do. First, it's not within our nature to tell people what to do, and second, we don't like the look of lots of different signs here and there and everywhere – it wouldn't fit with the whole character of our hotel.

I: OK, fantastic! We have two sets [of conceptual signs] to go. Let me first put the creepy eyes a bit further from here [laughs]. So, let's move on the this concept (Concept E). It is quite simply actually: This message is based on the findings of an experiment that demonstrated that "the same argument that 'recycling is important' was viewed more favorably simply when the sign also acknowledged that recycling could be inconvenient." (Werner et al, 2009).

This message has been designed to (reduce reactance and defensiveness towards the message and thus) elevate the compliance of your guests with the request of recycling by acknowledging people's obstacles & complaints about recycling.

What do you think about this message?

IE: I think it makes sense, definitely. In the context of our hotel we probably wouldn't use this message because we try to make things as easy as we can. So, with the recycling for example, we sit through the bins ourselves, we have recycling bins in the corridors, and we try to make it easy. We try to avoid being inconvenient, so that language may not work in our context but maybe if you were out in central town for example and there was a general waste bin and that label was on a general waste bin this message might work best. So, yes, maybe there is a place for it, definitely.

I: That's great. OK, so, moving on to the last concept. This is quite simple. Theory says that if we "Tell people they care about the environment […] they might start acting like it" [referring to Rachel James, 2010, p.6] "because they've started wearing a mental badge that says 'I care about the climate'. " [referring to Futerra].

So, what do you think about this concept? Do you think it might encourage pro-environmental behaviours?

IE: Possibly, for some people. Other people might look at it cynically and say 'Oh, I don't care about the environment' and might put people's backs up. So I think it depends on the audience, if you have an audience who their demographic is very likely to care for the environment, for example families of young children, then it probably would work because you do know they care about the environment, or they might be something in their lifestyle which probably leans towards that. Even though these two signs here say the same thing the black is really off-putting as a colour, I think there's something almost sinister about it, even though there is a smiley face in the end it doesn't come across as very nice. So, I think, yeah, you have to be very careful where you put it.

I: Of course. I have no more conceptual messages I created, but we have one last set of existing pro-environmental messages created by CoaST and Leap Design Agency, both based here in Cornwall.

IE: We already use this one in our hotels in our bathrooms [referring to CoaST's towel card that employs social norms].

I: Could you know if those cards you are already using have made any difference? I mean have you been able to measure the behavioural impact of visitors before and after using the pro-environmental cards? Because that's when you really know if it makes a difference.

IE: I am not sure if we did to be honest. We also use spa towels in the bedrooms and ask guests to take those towels with them to the spa and reuse them, taking them from their room to the spa.

I: Maybe I could see that message later?

IE: Sure. But the CoaST's ones have been in use for some years now but I was not working here to see if any impact was measured.

I: What do you think about this one? [Leap's message that employs humour].

IE: I like how it ties into someone's holiday in the South West. I agree that people do choose to come for holiday in the South West for its beautiful landscape, beaches, wildlife, etc. People choose to come because of these things, and this raises the awareness that we need to take care of that landscape etc., so that you can keep coming back for holiday. That is a nice message.

I: Great! That is lovely! We have finished with the pro-environmental signs. Now I only have two general questions. So, all this thinking is consolidated into a website, a digital platform for the Cornish tourism industry that can get science-based messages that can encourage green behaviour from their visitors. I would like your opinion on the order process. Let's say you are someone that would like to use the website and its messages. Which option to receive your pro-environmental sign would you choose? WHY? There are two ways for getting the messages (two options for the order process). I would like to describe to you both options & if possible, have your comments and feedback on them:

3. **'Here & Now' option:**
   - **Enter the website**
   - **Choose a message**
   - **Download it as a picture**
   - **Print it through your printer (e.g. – provide an example of simple printed paper)**
   - **Place directly the printed-message in your business context (right away)**

4. **'The postman' option:**
   - **Enter the website**
   - **Choose a message**
   - **Enter a shipping address**
   - **After some days, receive the message printed (different/higher quality printing) at your post**
   - **Place the message at your business context (it takes a few days)**

IE: Right. Knowing how some things work within the business, being able to have it instantly is a benefit because you don't always have the time to wait for things to come in, and we are a big business so we have the capacity to print things ourselves, and do that in house, so that would be quite easy for us to do, but at the same time, having something that is of a higher quality, obviously would fit in with the aesthetics of how we look. Also it would be nice if we could tailor the messages to our business brand, for example pictures or our logo or something like that, so it doesn't look generic but more like us.

I: So, having a customisable option?

IE: Yes, even if it's just the logo or a picture, or even fonts that fits in with our branding, that would be quite useful.

I: Sure, this makes sense. So, this interview has reached to an end, and if you have no further questions I would like to thank you for your time and contribution to my research.

IE: Thank you.

Appendix 6

Examples of the questionnaire used with tourists visiting the Eden Project, Cornwall, for evaluating the potential complexity of the wording arrangement on a sustainability sign.

Quick Questionnaire: Imagine that your hotel-room had this sign on a wall, asking you to turn lights off when leaving the room.

1) What do you think about this sign? What would your first reaction/thoughts be?

My name makes me want to read it.
About Saving money, not environment. Humourous element
The logos at the bottom gives it some worth, grounding.

2) Do you think it would encourage you to turn lights off before you left your hotel room?

☐ Yes
☒ No

Why (not)? Is there a specific reason for that?

I do that anyway as a habit.

3) How complicated do you think this sign is?

Not at all _____ Very much

A bit going on for a single message.

4) How pleasant do you think this sign is?

Not at all _____ Very much

5) Is there a phrase/word that you like or dislike?

'being green is normal'

What is 'green' anyway?

6) Is there a phrase/word that looks confusing or you don't understand?

'Help us avoid --'

FALMOUTH
UNIVERSITY

Quick Questionnaire: Imagine that your hotel-room had this sign on a wall, asking you to turn lights off when leaving the room.

1) What do you think about this sign? What would your first reaction/thoughts be?

few too many words (Pictures Instead: sloung (right being wasted.

2) Do you think it would encourage you to turn lights off before you left your hotel room?

☑ Yes
☐ No

Why (not)? Is there a specific reason for that?

More than that; encourages me to turn less electricity : can use it in various places

3) How complicated do you think this sign is?

Not at all   Very much

|————————————————————|

4) How pleasant do you think this sign is?

Not at all   Very much

|————————————————————|

5) Is there a phrase/word that you like or dislike?

*"In Cornwall, being green it means"
"Personifying Cornwall" values (eg. cigarette pack/ bad because — / good because —) obscuring communication.
+ "You are free." Personal values)*

6) Is there a phrase/word that looks confusing or you don't understand?

– "Help us – "

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Figure 378. A bird overlooking Cornwall's famous touristic attraction: the Eden Project (photo by author).
Eden Project was selected as a nice, complementary testing environment because of being famous for
embracing the philosophy of 'doing the right thing'.

Appendix 7

Chairing a Sanpit Focus Group at the Royal Cornwall Show (Local Enterprise tent) with representatives of the Cornish Tourism industry.

CORNWALL & ISLES OF SCILLY
LOCAL ENTERPRISE PARTNERSHIP

Daily Programme

Thursday

11.00 - 11.30	**Seminar:** The UK Solar PV Strategy – the market today and tomorrow BRE National Solar Centre (St. Austell)
13.00 - 14.00	**Sandpit:** Agri-Food Development – Andrew Williams and David Rodda Facilitated by Falmouth University
14.00 - 17.00	Cornwall Chamber of Commerce - come and talk business with CEO Kim Conchie
All Day	**Feature businesses:** Falmouth University Pre-incubation Award Winners, Driftwood Surfboards; Joint Effort Studios
All Day	University of Exeter (ESI) – Unmanned Aircraft Systems for environmental management.

Friday

10.00 - 11.00	**Case Study:** Employer Led Skills – Paul Massey , Director, Absolute Software Ltd. If you are an employer with employment and skills challenges, then come and learn from this case study.
12.00 - 12.30	**Seminar:** Renewable Farming – Feeding, fuelling and powering Cornwall & Isles of Scilly with Greener for Life.
14.00 - 15.00	**Sandpit:** How do we make a living from our culture without wrecking it? Simon Tregonning facilitated by Falmouth University
All Day	**Feature business:** Cartel - Photobooth
All Day	Oxford Innovation – Coaching for High Growth
All Day	Outset Cornwall (YTKO) FREE support to start a business. Why not become your own boss?

Saturday

10.30 - 11.30	**Sandpit:** Future Jobs – Judith Hann and Andrew Williams Facilitated by Falmouth University
All Day	Code Academy Workshop – for Children aged 6 and above – learn programming on a Raspberry Pi with David Griffith of FoAM and Falmouth University

Unlocking Potential: helping people develop and business grow - Available through this stand

Appendix 8

Examples of the questionnaire used after the presention of ongoing research at the Cultural Tourism Sandpit (the Performance Centre, Falmouth University).

Hallo hallo,

Thank you for your attention ☺
Now, please try to answer the questions below:

1) Do you work in a tourism-related business?
    o   No
    ✓   Yes
    o   Other:
    _____

2) Were you aware of any of the communication-design approaches shown,
before this presentation?
    ✓   No
    o   Yes, all of them
    o   Yes, some of them (indicate which one(s)):

    o   Other:
    _____

3) Would you be interested in using any of the approaches presented, in your
communication with your visitors?
    ✓   Yes
    o   No
    o   Other:
    _____

4) Any other comment(s):
    _____VERY   INTERESTING!_____
    _____

Thanks again!

Nikos

FALMOUTH
UNIVERSITY

Hallo hallo,

Thank you for your attention ☺
Now, please try to answer the questions below:

1) Do you work in a tourism-related business?
- o   No
- o   Yes
- ☑   Other:

Tourists visit Cornwall Record Office for research, but we do not currently market anything to them.

2) Were you aware of any of the communication-design approaches shown, before this presentation?
- ☑   No
- o   Yes, all of them
- o   Yes, some of them (indicate which one(s)):

_____

- o   Other:

_____

3) Would you be interested in using any of the approaches presented, in your communication with your visitors?
- ☑   Yes
- o   No
- o   Other:

_____

4) Any other comment(s):

Very interesting research.
_____

Thanks again!

Nikos

FALMOUTH
UNIVERSITY

Hallo hallo,

Thank you for your attention ☺
Now, please try to answer the questions below:

1) Do you work in a tourism-related business?
   o No
   ☑ Yes
   o Other:
   _____

2) Were you aware of any of the communication-design approaches shown, before this presentation?
   ☑ No
   o Yes, all of them
   o Yes, some of them (indicate which one(s)):
   _____
   o Other:
   _____

3) Would you be interested in using any of the approaches presented, in your communication with your visitors?
   ☑ Yes
   o No
   o Other:
   _____

4) Any other comment(s):
   Fascinating talk, looking forward to seeing the website once completed.

Thanks again!

Nikos

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Appendix 9

Transcription of Focus Group with Cornish Tourism Businesses (for Evaluation of 'Triggers for Change' Webtool version 0.2)

Focus Group at the Academy for Innovation & Research (AIR, Sandpit room).

Interviewer: Nikos Antzoulatos

Participants: ███
███████████████████████████████████████

Location: Falmouth University, Sandpit room, AIR, Pernyn, Cornwall.

Date: 23 June 2014

Acronyms used to label the talkers:

I = Interviewer

PE = Participant E

PF = Participant F

PG = Participant G

I: Good afternoon everyone.

Before we begin, I would like to thank everyone of you from the bottom of my heart for taking some time off from your busy schedule, and joining me here today. Ευχαριστώ! Thank you all very much!

For those of you who don't know me, I am Nikos; I come from Athens, Greece where I did my undergraduate degree in Product Design, then I came all the way up to Lancaster to do a Masters on Sustainable Design, and here I am now trying to complete my PhD on Persuasive Communication Design for Sustainable Tourism.

Today I will share with you a new way for influencing environmentally-friendly behaviour from your guests and thus promoting sustainable tourism.

I would like to show you two short videos that will put things in perspective
[At this point, participants see two videos:
- **Purplefeather**
- **Cialdini]**

What we saw in the videos is the inspiration for my research: The power of words; how we say something really matters, and can have a huge impact in changing people's behaviour. And if changing just a few words on a sign is all it takes to significantly encourage hotel-guests to act environmentally-friendly and reuse their towels, then carefully crafted messages can be an inexpensive way to effectively reduce costs in your business and save water & energy resources.

So, I was wondering why these words work? And during many months of isolation, studying in the darkest corners of the university library, I realised that these are not random words on a sign; this is much more than a clever slogan; this is much more than a polite request; these are words that are based on certain psychological concepts.

And that is what it makes it a carefully written message, because these are words that specifically derive from contextual factors that influence human behaviour, as explained in studies from various disciplines that involve communicating & influencing human behaviour change, such as Psychology, Behavioural Economics, and Neuroscience.

There are many factors, I brought together 16 of them in a coherent list [at this point, I saw the list of 'elements of persuasion].

Now, during the initial stages of my research, I found out that there is a network of people called CoaSTies, that want to encourage sustainable behaviour in their business practices, and that will ask their visitors for environmentally-friendly behaviour.

So I made a conscious decision to use those 16 behaviour-change principles to create a website as a tool that helps CoaSTies to do what they are already doing in a more effective way.

Now, what you see is still work in progress. This is not the final version of the website but just a prototype, a "fake" website. This means that aesthetically will change but the main features and navigation will remain the same.

Therefore, to conclude my introduction, if you are a tourism business who (as Manda would say) is "a positive deviant" and makes an effort to communicate sustainable tourism & environmentally-friendly behaviour to their guests, this is your webtool, because:

- As we show in the video, it is an inexpensive way to significantly reduce your operating costs and save resources.
- It is effective, quick & easy to use (user-friendly),
- Can make signs based on behavioural science
- Can make signs that are appropriate to your visitors
- Share your messages and see other hoteliers' messages, so everyone can share their best experiences with their signs, and everyone can learn from each other.

Now, I would like to briefly take you through the website; if any comments or questions arise please note them down, and we will discuss them at the end of this part.

[At this point the items of the menu are explained]
Let's start with the menu items on the top:

- Triggers for change logo symbolises the messages that will be used to create sustainable behaviour change;
- This is the home-page.
- About-page will explain what this website is all about in more detail
- My message: This is where the website helps you to encourage sustainable behaviour, at three main points-of-interaction in the journey of a visitor within a hotel. You can communicate sustainability during check-in; in the room where a guest spends more of their time, and during check-out.
- The 'Get inspired' is a section for sharing your best experiences with sustainability messages with other hoteliers, so everyone can learn from each other.

[At this point the items of the website are explained in detail]
Now, I would like to explain those features in more detail.

Homepage; You click to start creating your message;

[Ai] What would you like to ask your visitors? This is where you choose a single request to make to your visitors. I have created a menu of five main areas of sustainability… energy, water, waste, locality, transportation, that consist of different subcategories that are

related to visitor behaviour. For example, visitor behaviours that are related to energy usage in the hotel, or waste within the hotel. Let's say that you would like to ask your visitors to turn lights of when away.

Now, you will notice throughout the website this little 'why this works' button here. This is one of the core functions of this website, because it gives you the option to understand the science of persuasion behind each suggestion the website makes to you. You don't have to use it; you can just follow the suggestions of the website and you will still create quick & easy an effective message, but if you do click on it as you use the website, it can help you get a better understanding of the behavioural concepts and get inspired to use them in other communication efforts of yours (e.g. verbal communication). I will show you an example of how this works in a bit.

[Aii] What do your visitors think? Do your visitors believe that 'turning lights off when away' is important for the environment? Answering this question helps the webtool to suggest to you messaging-options that are appropriate to your audience.

[Aiii] Messaging during check-in: The website prompts you to try to obtain a pro-environmental commitment from your guests, during check-in. It suggests what to say verbally, in combination with a written form to use.

[Aiv] This is where you create your sign. This area here consists of the elements of persuasion I have brought together from multi-disciplinary theory & case-studies.
Message – canvas: this is the area where the user creates his message.
This area offers more wording options according to the element of persuasion that has been selected.
We will get back to this in a bit.

[Av] Messaging during check-out: The website prompts you to say farewell to guests by also making them adopt a green identity.

[Avi] Get inspired: The user of this website can get inspired by:
1. Looking at the science of persuasion
2. Looking at what others are doing

1. Looking at the science of persuasion: each one of the 16 persuasive elements shortly explained, with images of current examples & case studies.
For example if you click on the element of 'social norms' takes you to a display where you see how many other hoteliers like the concept of social norms, a small text that describes the concept, e.g. "we are strongly influence by what others do" [referring at Dolan et al, 2010], this is the section with images and examples so you can get a better understanding. This section here is where you could share your thoughts on this concept. Thus, I offer a platform where Cornish hoteliers can have their saying; comment & share their viewpoint with other tourism businesses in Cornwall and beyond.

2. Looking at what others are doing: a platform for hoteliers sharing with other hoteliers the messages they have created using this tool, or existing messages that they find effective.

[At this point the persuasive elements that the message canvas consists of are explained in detail] Last, I will explain how making the sign works and I will finish this presentation.

[Personalisation]
So for example, if the user clicks on this element [At this point I explain the element of personalisation]

The user drags n drops it on the message canvas where the initial behavioural request is; and instantly, for reasons based on academic theory, this has made the initial request more persuasive; this simple move has increased the effectiveness of your request.

And this is the main philosophy behind this webtool: quick & easy, with a single click of a button, you can add elements of behavioural science to your initial request, and increase the likelihood that people will respond to it; it is like adding various layers of clothing to a naked body to increase its warmth.

[Validation]
Let's look at the element of validation [At this point I explain the element of validation]

Drag n drop it on the message canvas. Words have been added.

And again, for reasons based on academic theory, this simple addition has made the request more persuasive, because it empathises with people and acknowledges people's freedom to choose.

This time, if I click on this phrase I can replace it with other wording-suggestions, that are related to the concept of 'validation'.

[Social Norms]
Let's look at the element of social norms [At this point I explain the element of social norms]

[Authority]
This trigger prompts us, not only to use our own logo, but to find other people/institutions to support us well; this makes our voice stronger.
[At this point I explain the element of authority]

And there you have it: A carefully written message, based on behavioural science, that promises to make your sustainability request more effective. You can stop here, you don't have to use all the buttons – it is up to what you like, and what you think might be suitable your business needs. And that reveals the importance of the "get inspired" section, where you can see messages from other accommodation providers that they

have created using this tool and you can read their comments about their experiences with their signs.

[Priming]
This again is based on theory for influencing behaviour-change
A pair of eyes next to the request may encourage people to do what they are asked.

[Mental Badge]
That is based on theory that argues that if you "[t]ell people they care about the environment [...] they might start acting like it", "because they've started wearing a mental badge that says 'I care about the climate'. " In a way, it puts people in the position of being somebody who cares, so they start thinking themselves in that way.

[Loss language]
Theory suggest not to frame a message in terms of what people could gain, but in terms of what people could lose if they don't act on the information.
[Reasoning]
Theory suggests when we create messages about pro-environmental behaviour to appeal to values that go beyond ourselves. For example, it is best to ask people to protect an endangered species not because of their financial value, but because of their intrinsic value; something that should be protected in their own right (talkingclimate.org)

[At this point each item of the website is evaluated by the participants]
Now I would like to take you through the elements of the website one-by-one, and see if you have any comments or suggestions to make.

PE: I think the concept and the idea is good. Do you agree? [referring to the participant next to them]

PF: Yes, I do.

I: Thank you – it's good to hear that. So as an overall idea is good?

PE: Yes.

I: Great – now, the website asks us, 'What would you like to ask your visitors?'
This where you choose the issue; any questions here?

PE: My gut thing was that it is good but it is maybe too black and white? I would like to see some colourful depiction of what is all about – you know, like the CoaST thing, the feet on the sand.

PF: Some kind of really good engaging wallpaper it would be fantastic, yes.

I: Maybe, if I understand correctly, as small image to accompany the text, for example, if we're talking about turning lights off maybe an image of lights, or if we're talking about towels maybe a small image of towels.

PE: I think we're thinking about the right wallpaper, to set the tone.

PF: Yes.

I: This is just a prototype – aesthetically will change. I mean you will see colour for sure.

PE: Yes – some picture of the environment as the reason for it all.

I: OK, I understand – but as a function, is it clear? As a menu where you can choose an issue from?

PE: Yes.

PF: Yes.

I: What do your visitors think? Science tells us that if people perceive an issue as important then assertive messaging is better for them; if people think an issue is not important then non-assertive messaging is best for them.

I designed this function so you can create messages according to your guests; so according to your answer the webtool will give you options to create your message in an assertive or non-assertive way.

Would you be able to know if your guests have a pro-environmental attitude or not, before they arrive at your hotel? Maybe you have some guests that return frequently, so you know them, or maybe you could ask your guests during a phone- or email-booking, something like: we are interested in understanding if our guests have a personal interest in environmental sustainability?

PE: I think that very early on, when they're looking at you website, if it's got similar values to their values that is immediately the sort of the screening process, so you're pretty likely that it's going to be a yes. Otherwise, they're going to move to somebody else's website.

PF: I would agree with that. We have a range of clients, from schools and colleges through to more normal kind of group holidays, and then weddings and conferences. And I think the latter three would be more likely to be unsure because I've got a broad spectrum of attendees – schools tend to be pretty good, and I think would respond well to the right kind of messaging. The other, we shouldn't assume they are on the same page.

I: Would you be able to ask them before they would be arriving, something like 'we are interested in understanding if our guests have a personal interest in environmental sustainability?' Is this something that you could ask beforehand?

PE: I think that's too soon – before they come.

PF: Yes, I think that some people might respond to that but a lot of people probably wouldn't respond to that. What we have done in the past is, rather than have a conversation, before groups arrive send them some information about us, a little document which would outline a few do's and don'ts, health and safety wise, and also say we're just really keen with people turning off their lights, and that sort of thing. Lots of those things we ask for we actually don't have any options for, because we only give them one towel, we don't give them another one, and I don't care if they put it on the floor or the ceiling – they only get just one towel and when they leave we clean it. And a lot of the corridors and bathrooms, the lights are on info-red thing so they come on on a certain period and they go off again. So, in a way, I quite like not giving people the option. There are cases where you have to, like in the bedrooms and so on, and that's where we would need to have some extra messaging I think.

PE: I only email guests before they come, [inaudible] before they even come to saty at Boscrowan so I email this 8 weeks before they come when they pay their bounce. I think that's the best way – cause you've got to remember they're actually booking a holiday, or an experience, they're not actually necessarily wanting to click in to this environmental thing, that's not their priority. Would you agree?

PF: I would say, once we get beyond the schools I would think yes it is not necessarily a priority, some people they're just like that, you know, already but I would say a lot of people probably are not, so we've got to be a bit more careful with that.

PE: I think you've got to be very gentle and unobvious. I remember I really good CoaST presentation, somewhere in the Eden project, and it was an exceptional day where they were sort of teaching us how to gather up people using words like "enjoy", "join up with us" – did you go to that one?

PF: I don't remember.

PE: I was how you got the message over. It was a very gentle one without people actually realising it.

I: Was it one of Manda's presentations?

PE: It was one of Manda's presentations, and it was about five years ago. It was called a 'storytelling day'.

I: I will definitely ask Manda about that.

PG: Nikos, I have a question about that. Your answers are yes or no for every issue separately? So, it can be maybe 'yes' for waste, and 'no' for towels?

I: Due to the fact that the website is designed to prompt the user to use a single issue in their message-crafting, at the moment, the 'yes' and 'no' function is for each issue individually. But anyway, this specific question I think is best to be answered for the general attitude of visitors – if they have a personal interest in sustainability or not.

PG: Maybe in hotel you could see that all guests turn off the lights but they don't recycle, or they don't separate the waste, so you know that maybe they are aware of the importance of turning of the lights but they're not aware of the importance of recycling.

PE: What about saying 'this is what we offer and we just want you to gather up and do it', -
I just wonder whether I would say, "We think that it is important, or whatever,...". Do you think that or not?

PF: I think it is a good idea for people to have some clues about your ethos before they get there.

PE: So, are we getting an option to say 'This is not important' aren't we?

I: This [pointing at the presentation slide depicting the 'What do your visitors think?' menu] is not something that your visitors would answer, this is something that you would answer as hoteliers. This website is for you as a hotelier, so your visitor will not be seeing that. But it is important to know, at least as I have designed it here, beforehand, the attitudes of your visitors.

PE: Alright, so ignore my previous question.

I: It's alright – I'm working out things in my head as we speak, this is still work in progress.

Let's move on then. Let's go to the 'Check-in' page - Messaging during check-in: The website suggests to try and obtain a pro-environmental commitment from guests during check-in. And it prompts the user to ask this question, and use this form [pointing at the slide depicting the "message during check-in" page].

What do you think about that? Do you like it? Would you be able to use this during check-in? Could your receptionist or yourself ask this question, and have guests sign this commitment form? What do you think about this idea, this notion of commitment during check-in?

PF: For us, I think, certainly when it comes down to schools and things, we send thme a code of conduct – we send them a whole load of information on health and safety, and policy, cause that just schools we have to do that. I think a short paragraph just in the subject would be a very good one – our wedding guests could be very good, they always come beforehand to se if they like the place and stuff, so we can talk about this, in fact we do talk about that
 Perhaps not so explicitly, but we do sort of talk aroung waste and energy and so on.

I: Would you be able to use a form like that so that guests could tick yes or no, so you could have something written rather than verbally?

I would be tempted to do that electronically, because we do really everything via email, so something on email I think would be a good thing.

PE: I think that during check-in people just want to get on with it – they've arrived, they've had a long journey, they're bit stressed, and I notice even when you're introducing yourselves, really they can't wait to get stuck in there. That's the only one I have a doubt about – the check-in.

PF: I think for a hotel, where someone could just come in from the street, that you had no previous contact with, I think that's a perfectly good thing. But we are just not geared to having someone just walking off the street.

I: So, you have always previous contact?

PE: Yes.

PF: We always have previous contact. If I couldn't get an introduction as part of that contact process then that would be a perfectly viable option.

PE: And I think it's very interesting, what you just said – [referring to the participant next to them] just said, oh I must look at that again – my pre-informational thing [referring to a hotel's code of conduct], and I have already been thinking 'I should be looking mine', so you have already made us actually think a bit more about what – so it is really interesting, I thought today we would probably get something out of it, and I feel I have already.

I: That is very good [laughs]

PF: And I think this process that you've got would be a fantastic prompt for how we express the messages we want to express - I think it is really, really good.

I: Could you be a little bit more explicit on that?

PF: Well, already we can see [sic.] that depending on who do we think our guests are, we may be wanting to say something very, very positive or perhaps a little more subtle .That is really, really helpful I think.

I: Great! So, now, the message canvas… Let's quickly go through the elements to have your perspective on them. [At this point, a discussion on each individual element in the message-canvas is stimulated, with the researcher asking every time the participants: What do you think about that? Do you like it? If you were using this as a live website, would you use this element in your signs?]

I: [Would you use] The element of personalisation?

PF: Yes.

PE: As long as you put plenty more information there – which I am sure you're going to do, but I think it is essential that more goes on, not just a personalisation and then a sentence, because that's a bit too direct.

I: Do you mean here [pointing at the area that consists of all the persuasive elements together], or on the sign?

No, I think it is fine on the sign, all I'm saying is make sure it has more, and the reasons why.

I: Reasons why we are using this element?

PF: No, no – the element is perfect.

I: So, more for here? [pointing at the message canvas]

PF: Yes.

PE: Yes.

I: Please turn lights off when away...

PE: BECAUSE it would help us...

I: Right. Then we would be using the element of 'reasoning' which I will mention in a bit – but it is great to hear that, Elisabeth.

I: [Would you use] The element of validation?

PE: I wouldn't word it quite like that, "You are free to accept or refuse" – it's a bit too black and white for me, but I'm not sure. What do you think? [referring at the participant next to them].

I: Anything you have in your mind will be great feedback for my research, so if you have a negative comment just let me know about it.

PF: Maybe "we would like your help on this", as a straight appeal. Cause people like to help other people, you know?

PE: yes

I: Yes, that's true.

PF: It's not saying, they DON'T have an option to refuse, we're just saying "we would appreciate your help".

PE: I was thinking exactly the same.

I: Right, and what about if you wanted to replace this phrase with additional phrases like these: "It may be inconvenient but it's really important", or "You can't do everything but you could do your bit really, really well."

PE: I don't think you need anything with a negative in it, I think you want to be giving them a positive feeling.

PF: Yes - "this would mean a lot to us", again I think that's a nice phrase. I wouldn't even mention "you don't have to …" because I think it's implied that it's not compulsory "but it would really help if you could do this", "we would really like that".

I: Fantastic! Moving on…, Would you use the element of personalisation?

PE: I like "Join most of us", I am less keen on "most guests staying in this room" because that's me putting a little bit of pressure on guests, and I don't like pressure, I like to have wording that encourages people to voluntarily engage [in the requested action].

PF: I think I would agree with that – let's see the other [wording] options … [at this point, the researcher reads aloud the other wording options for social norms].

I: What do you think about this phrase: "In Cornwall, being green is normal."?

PF: Maybe something more like "Most people staying with us save energy", or "Saving energy makes sense". But I do think that social norms is really important – it is just a matter of expressing that.
[A lively discussion on understanding a concept and acknowledging its importance, but not being font of a specific outcome (phrase) from that concept. That is why the webtool gives users the opportunity to understand more about the concepts they are using, in order to be able to express and create their own wording based on that.]

I: So, as far as I understand, both of you are not that font of this specific phrase: "Most guests staying in this room save energy"?

PE: I think you could slightly do better with that phrase. "In Cornwall being green is good", that is more positive than normal.
["being good is important but …" Futerra]

PG: I just want to ask you, is there still the option to type in your own words?

I: Yes, there will be that option.

PF: Yes, I think that would be a great idea.

PG: So, how does that work?

I: Remaining at the drag n drop concept, I think the interface would have somewhere an option like "My Text", where you would click on it, or drag n drop it onto the message canvas - something like that.

PF: Yes, because those are all really good prompts for us, but it would be nice just, i think, to have the ability to edit [the text, the wording options] a bit.

I: That is great.

PE: I think you're being tentative, and we're being more positive. You are short of asking people "Do they want it?", "Don't they want it?", but we saying "Gather up, this what we're doing, ...". Maybe you [referring to the participant next to them] slightly disagreeing on that?

PF: No, I'm not. I think that is right. Sometimes when we've got a big group staying we actually say "OK, we expect a group this size to use x amount of water per day, and x amount of electricity, so let's take some readings before we start and let's see what we could save or not."

PE: Interesting.

I: Do you inform your guests about that?

PF: Yes, definitely. This is with schools in particularly – it's a good lesson for them. I just say "Let's see if could do better now, shall we?"

I: Do you have any meters in your room? So people could see the amount of energy or water they used?

PF: Not in the rooms, no. Those things are metered, so we could just take a reading at the beginning and a reading at the end, but not down to individual rooms. So, we have done that with some groups and it has been really good.

I: That is really good actually, specifically with young children because they are the next generation of consumers.

Moving on then, would you use the element of authority?

PE: Yes, sure.

PF: Yes.

I: What about the element of Priming?

Maybe not these pair of eyes, maybe something with a different style – something like a cartoon, or a famous painting, like Mona Lisa's eyes... These are just suggestions, but they are all based on Behavioural Science.

I would really love to hear your opinion on this one.

PF: I think the black and white picture is actually quite sinister [laughs].
PE: OK, I am absolutely no to eyes – eyes completely turn me off [laughs].

PF: Something that I say to the groups that come in is, you know, all of you are living in a fairly communal kind of space, you start thinking about each other rather than just yourself. Now, how we can translate that into people helping each other, i.e. let them be the eyes, is another matter [Foucault's personal surveillance]. But I think priming of some sort is a good idea but … .

PE: A picture of a helping hand or something but the eyes I found sinister.

PF: Because of the design, it looks like someone is peeking through a letter-box or something. There has to be a more acceptable way of doing that.

I: Indeed, this pair of eyes is looking directly at us [laughs]. It is quite peculiar, because there is so much theory behind that, studies using signs and eyes, and they demonstrate a significant change in people's behaviour. That is why I am using this element here as well.

PF: I am sure, particularly in prohibitions and things – I am sure they are brilliant. I mean, how much less vandalism is in city centres because of CCTV? If you are inclined to do something you might not because the cameras are watching you. So, I can see why a reminder of that would be a very effective thing, but we need to be a little bit more subtle somehow.

PE: You could have an option where we could place a picture of ourself, if we liked.

I: So, these eyes to be your eyes?

PE: No, I am talking about something like helping hands or something, I don't know, two people sort of helping each other – something softer.

I: Now that you mentioned that, I remembered some coffee-packaging where at the back side it has a picture of the farmer of that coffee. If we had something like that, for example, you with a very nice background, not just the eyes, this time a full picture of you.

PF: I think that might be a useful addition. Better than Alfred Einstein looking through the box [laughs].

PE: You see the CoaST site, has the logo and the footsteps on the sand. All about the environment, very simple.

I: Great. If you don't have anything more to add, I will move on to the element of "Mental Badge" – would you use that in your messages?

I have seen the words "we know you care" used by WWF and GREENPEACE messaging - putting the visitor in the mindset of someone who cares.

PF: Yes, I think that's good – it makes someone important for caring. I like that.

PE: Do you have option for that as well?

I: No, I am afraid no options for this one – I am still working on it, but that is the main idea.

PF: Sure. I think it is really important. For start they will think quite well of themselves, if we are saying "hey, you DO care", and that is an important thing, to make people feel well about themselves.

I: Very nice. Let's see those two elements here: the "Loss Language", the language of loss, and "Reasoning" – they come together.

As you mentioned earlier [addressing the participant], reasoning is important for making a request persuasive. But in this case, I wouldn't like to provide a reason based on economic terms, for example "turn the lights off because you save money"; I am saying "turn the light off because you save our local community, our trees, the animals". And that is what beyond-self reasoning is all about.

So, this is what I am trying to do here, bring in a single sentence beyond-self reasons and language of loss. These examples here are something that could change, but the theory is there to make the ground solid for being creative and coming up with more sentences.

PE: I like the "Loss Language"; it makes people think more about the consequences.

PF: I like the "Help us to protect, or sustain natural resource", cause somehow it seems a bit more positive than saying "Help us not to lose it". Or "Help us respect our resources" – they just seem slightly more positive ways of saying it. And again, using "Loss Language" is good, is just the actual words that we are using is critical.

I: What about this beyond-self reasoning that I mentioned? Talking about the environment, the community, honesty?

PE: "an honest relationship with our local community"; I am not sure about this one.

PF: That might be more appropriate in an eco-tourism project in Africa or somewhere, you know, where the local community is supporting a tourist enterprise or something.

I: So, would you be using the "because it is the right thing to do" option?

PE: I don't think it says enough. "the right thing to do" is a bit ambiguous, it's not enough.
[But according to theory people that already perceive an issue as important do not need a lot of wording; laconic, assertive messages are the most appropriate for them.]

PF: I might use that in conversation, with a number of points. But I think when we've got a limited space to put across a concept, it is not powerful enough going down there. You know, we've got maybe six lines of text we can use that we need to be careful about what we are saying.

I: You are very right, and this is one issue I would like us to get back to in a bit, in terms of the amount of words that can be used in a single sign. OK, so to finish this combination of reasoning and loss language here, any last comments?

PF: No.

PE: No.

PG: Could I just ask one question? If you guys [referring to all the Sandpit participants] had the text editing option, would you prefer to edit as you go, or finish writing and then have an editing option at the end?

PF: That is interesting. So, use all the elements first and then go back and edit the whole thing?

I: Do you mean once you've reached to this stage [pointing at the current presentation slide of the message canvas]?

PG: Yes, once you've reached to this stage then it opens like a text editor and you just change one or two words.

PF: Yes, that would be useful probably.

PE: Maybe that would make it easier in IT terms.

PG: I think it would make it easier because if you try to edit every sentence as you go, it changes the relationship between the sentences.

I: That is great input – thanks!

Now to finish, I would like us to go to the "Get Inspired" section, and we could call it a day! So, apart from "Creating your message" there is this "Get Inpsired" section where you can get inspired by looking at the science of persuasion, understand every of the elements in more depth, see other examples, find out how other hoteliers feel about using specific elements in their messages. Is there something you like about this section? Is there something you could possibly use?

Because it is exactly what we're doing here today, theory argues about one thing but what about you and your specific business context? How does "social norms" work for you in your signage? Would you like to be able to share that with other tourism businesses in Cornwall, saying something like "This is very good! This makes my messages more personalised. We can see a difference in our energy bills." I am providing a platform to share your voice with others.

PE: Yes – I think this is very good.
PF:Yes, yes, indeed.
I: On the same idea, this is where you can get inspired by looking at what others, other hoteliers, are already doing. So, this is a section where other hoteliers have uploaded

their messages, messages they have created using this webtool, or generally messages they have found effective in reducing their operating costs.

So, for example if you click on this one, you can see the message they are using, a short description, how many other hoteliers liked this message, for example, "Jennifer, Hugo G., and 13 others like this message", you can see where they have used their message within their business context, which kind of triggers they have used, and a section where you can add your comments.

PF: I think peer-to-peer learning is brilliant - No doubt about it.
PE: Yes, I totally agree.

I: If this was a real webtool, would you use this social-networking function of the tool?

PF: Yes, of course
PE: If I had time, yes.

I: Would you use it to get inspired but also to upload your messages to inspire other people?

PE: Of course - I quite like to inspire other people!
PF: Yes, definitely.

I: This sandpit has come to an end. I would like to say thank you one more time – thank you for being present, and for being full of nice ideas and comments! It really means a lot to me!

PF: I think this will be a really good application. So often, I sit in front of the computer and I know I've got something to do but my mind just goes blank, or I start thinking about cows or something, you know. So having these prompts here is really handy.

Also, for some businesses that are just now going on this sustainability journey now as well, this would be invaluable – the whole concept of this webtool. Because there are businesses out there that only now are appointing people to be environmental managers and so on, and this would be so good for them to be able to just open this up and say "Right, what have we got to do, OK …", and on they go!

And don't forget: inject humour to it!

I: That is great! Thanks very much all of you!

Appendix 10

Designing and conducting a Collaborative Workshop (CO-LAB) with 'Sustainable Product Design' students (level 2) and 'Creative Advertising' students (level), at the Design Centre, Falmouth University.

[CO-LAB] WORKSHOP

Design Brief:

Having identified an issue around sustainable tourism that you would like to address, utilize your group's creative forces & design your approaches for addressing the chosen issue.

You can come up with **any design intervention you wish**, but every group must do:

- **a poster** that captures the core idea.
- **a twitter message** that captures the core idea.

Translate your core idea into any other approach you wish.

Also, try to use the design material found on your desks to help stimulate your creativity.

Be creative - Have fun ☺

FALMOUTH UNIVERSITY

CO-LAB Workshop 1: Techniques of Persuasion - Behavioural Change
14th November, 9.00 – 16.30, Design Centre.
Participants: stage 1, SPD (24 students), Creative Advertising (35 students)

9.00
Arrival
Students divided into approximately 10 groups of 6.
9.15
Ice Breaker – Name Your Team (Speed Branding)
- 8' minutes to name team & sketch logo on A4
- 7' minutes groups name & explain why (staying around their desks)

9.30
Jono and Nikos Present workshop
9.40
Nikos presentation (on research, & behaviour change)
10.15
Q&A (a couple of questions)
10.25
Design brief: Project brief hand out
- Sustainable tourism issue driven by CoaST
- 10' minutes: Student's idea of unsustainable tourism examples:
  - identify issue.
  - name it to others
  - (students that had trouble with coming up with an issue will be provided one by me).
- Explanation of brief & design stimulus

10.40
Q&A
10:50
Coffee Break
11.00
Workshop exercise starts

Lunch – whenever and however

14.30 – 16:30
PinUp, presentation, critique
5 Minutes presentation
Student's evaluate each other's approaches (coloured stickers)

Schematic Brief
Students will work in teams under Nikos's and Jono's guidance - on techniques & issues driven by CoaST (Cornwall Sustainable Tourism Project - NGO).

Deliverables
1 poster & 1 twitter message, that capture the core thought.
Poster translated into any delivery media, such as Facebook, Mobile app, Guerrilla Advertising, Ambient Advertising, Festival Event, etc.

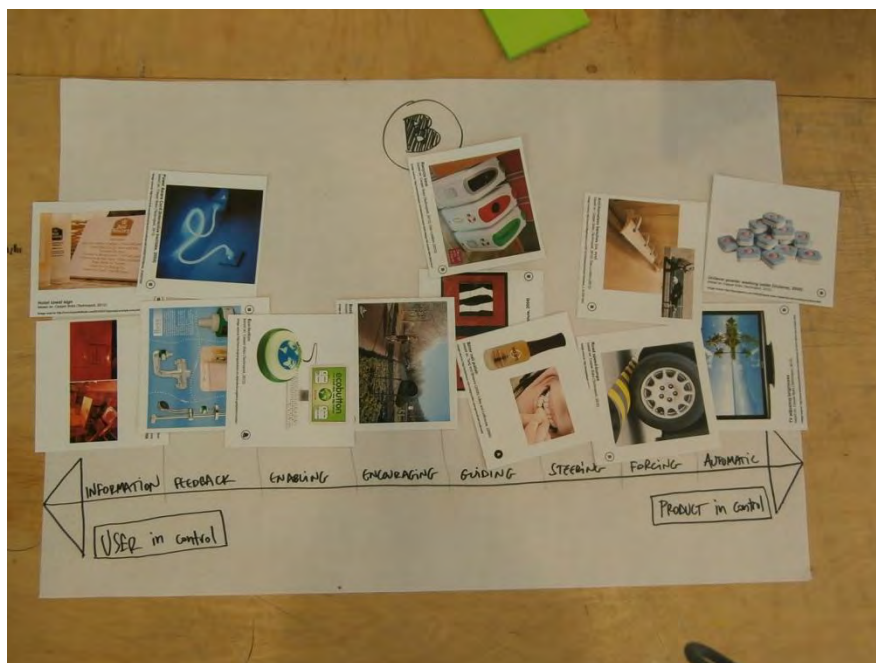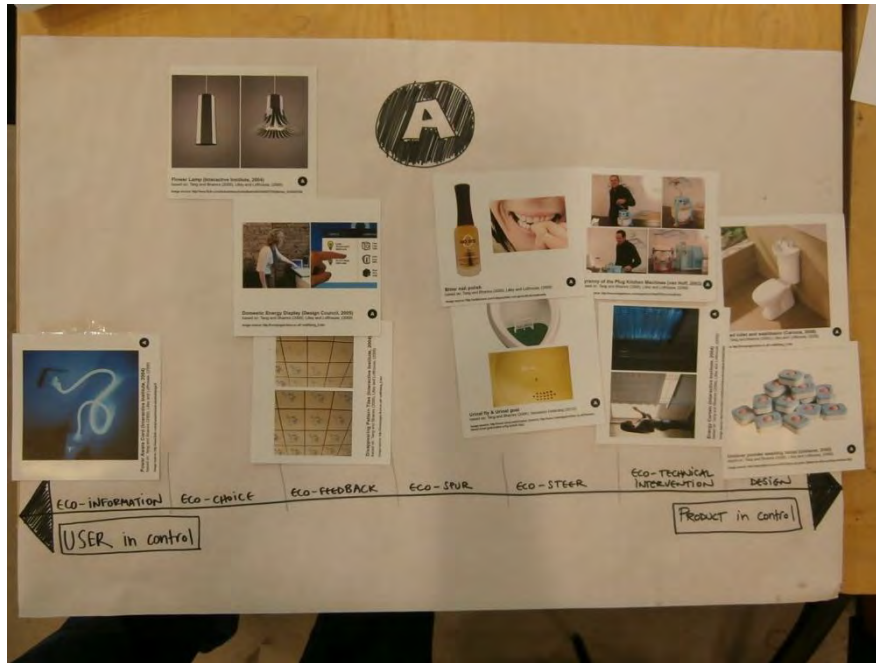### Advertising, design and behavioural change explorer
Fun, adventure and new friendships compulsory!

[CO-LAB WORKSHOP]

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Appendix 11

Designing and conducting a 'Design for Sustainable Behaviour' Workshop with 'Sustainable Product Design' students (level 2), at the Design Centre, Falmouth University.

Power Aware Cord (Interactive Institute, 2004)
based on: Tang and Bhamra (2008); Lilley and Lofthouse, (2009)

A

image source: http://www.flickr.com/photos/interactiveinstitute/page3/

Wattson - What Watts are On (DIY Kyoto, 2005)
based on: Tang and Bhamra (2008); Lilley and Lofthouse, (2009)

A

image source: http://www.diykyoto.com/uk

Tyranny of the Plug Kitchen Machines (van Hoff, 2003) **A**
based on: Tang and Bhamra (2008); Lilley and Lofthouse, (2009)

image source: http://www.designboom.com/snapshots/milan03/dickvanhoff.html

Flower Lamp (Interactive Institute, 2004)
based on: Tang and Bhamra (2008); Lilley and Lofthouse, (2009)

A

image source: http://www.flickr.com/photos/interactiveinstitute/with/4546007505/#photo_4546007505
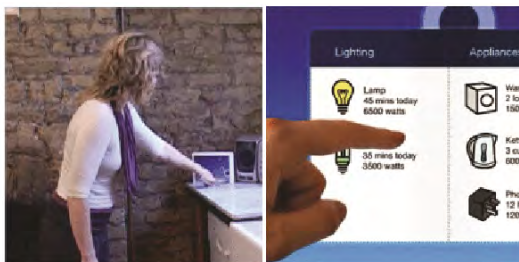
Domestic Energy Display (Design Council, 2005)
based on: Tang and Bhamra (2008); Lilley and Lofthouse, (2009)

A

image source: http://homepages.lboro.ac.uk/~cddl/doing_it.htm

Unilever powder washing tablet (Unilever, 2000)
based on: Tang and Bhamra (2008); Lilley and Lofthouse, (2009)

A

image source: http://depositphotos.com/1685285/stock-photo-Tablets-for-dish-washing-machine.html

Energy Curtain (Interactive Institute, 2004)
based on: Tang and Bhamra (2008); Lilley and Lofthouse, (2009)

A

image source: http://www.flickr.com/photos/interactiveinstitute/4546007505/

Integrated toilet and washbasin (Caroma, 2008)
based on: Tang and Bhamra (2008); Lilley and Lofthouse, (2009)

A

image source: http://homepages.lboro.ac.uk/~cddl/doing_it.htm

Hotel towel sign
based on: Casper Boks (Technoport, 2012)

B

image source: http://www.beyondattitude.com/2010/03/11/prompts-prompts-everywhere-prompts/

Power Aware Cord (Interactive Institute, 2004)
based on: Casper Boks (Technoport, 2012)

B

image source: http://www.flickr.com/photos/interactiveinstitute/with/4546007505/#photo_4546007505

Wallet-Reminder sign (City of Westminster, 2012)
based on: Tang and Bhamra (2008); Lilley and Lofthouse, (2009)

A

image source: author

Bware water meter
based on: Casper Boks (Technoport, 2012)

B

image source: http://greenupgrader.com/6220/greener-gadgets-bware-water-meter/

Puzzle light-switch (Interactive Institute, 2004)
based on: Casper Boks (Technoport, 2012)

image source: http://www.tii.se/aware/

Ⓑ

Unilever powder washing tablet (Unilever, 2000)
based on: Casper Boks (Technoport, 2012)

image source: http://depositphotos.com/1685285/stock-photo-Tablets-for-dish-washing-machine.html

Ⓑ

Recycle bins
based on: Casper Boks (Technoport, 2012); Dan Lockton (2012)

image source: http://www.technoport.no/videotalks/casper-boks-design-for-sustainable-behaviour/

Ⓑ

Basketball rubbish bin for cyclists
based on: Casper Boks (Technoport, 2012)

image source: http://www.cyclestreets.net/location/12353/

Ⓑ

Disappearing Pattern Tiles (Interactive Institute, 2004)
based on: Tang and Bhamra (2008); Lilley and Lofthouse, (2009)

image source: http://homepages.lboro.ac.uk/~cddl/doing_it.htm

Ⓐ

Eco-button
based on: Casper Boks (Technoport, 2012)

image source: http://www.kmjenergysolutions.co.uk/products-page/eco-gadgets/eco-button/

Ⓐ

Road speed-bumps
based on: Casper Boks (Technoport, 2012)

image source: http://imageshack.us/photo/my-images/267/speedbump.jpg/

Ⓑ

Anti-homeless benches (vv, vvv)
based on: Casper Boks (Technoport, 2012); Dan Lockton (2012)

image source: http://www.huffingtonpost.com/2011/01/25/santa-barbara-homeless_n_813237.html

Ⓑ

TV adjusting brightness
based on: Casper Boks (Technoport, 2012)

image source: http://www.technewsandreviews.com/plasma-tv-vs-lcd-tv-which-one-is-better.html

Ⓑ

Bitter nail polish
based on: Tang and Bhamra (2008); Lilley and Lofthouse, (2009)

image source: http://softskinone.com/category/skin-care-general/nail-treatments

Ⓐ

Urinal fly & Urinal goal
based on: Tang and Bhamra (2008); Sebastian Deterding (2012)

image source: http://www.urinal.net/schiphol/ (bottom), http://www.morningadvertiser.co.uk/General-News/Urinal-goal-makes-a-big-splash (top)

Ⓐ

Eco-button (xxxx, xxxx)
based on: Casper Boks (Technoport, 2012)

image source: http://www.

Ⓐ

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Appendix 12

Workshop with LEAP Design Agency at St. Austell, Cornwall: Examples of design stimulus, evaluation forms and workshop transcription.

Elements of Persuasion - (work on progress)

Factors that can influence human behaviour-change:

1. Information provision

Provide information about the negative environmental impact of a specific behaviour (e.g. littering).

> "The default approach to changing behaviour is to provide more information".

> Too much information confuses people & discourages them from reading the message.

2. Incentives & Disincentives (Rewards & Punishment)

"Use positive incentives for behaviour change in verbal or written communications."

> "Positive consequences include material rewards, praise, the avoidance of negative consequences such as punishments, guilt, or feelings of immorality, and the internal satisfaction that comes from doing the right thing."

> "Decisions based on money are shallow and fragile".

3. Social pressure / Norms (principle of consensus)

Point out that many similar others are already doing the right thing. Emphasize that only a minority of people are performing the undesired behaviour.

> "Remember to make good sound normal and bad sound rare. Being good is important but being normal is even more so."

> Everyone else is doing this already! Join us! Be a part of it!

4. Display the authority (principle of authority)

Display the authority / credibility / source of expertise of the message in order to increase the validity of the message and therefore elevate people's compliance with the request.

> "People will trust & follow credible experts.

> Including the logo of the message-sender (e.g. Cornwall Council) on the sign, the message displays credibility & authority.

5. Commitments/ Consistency

Obtain a voluntarily & publicly expressed commitment about people engaging in the desired (achievable) pro-environmental behaviour.

> "Commitments set the stage for subsequent consistent behaviour."

> "All visitors in each vehicle entering the site can be asked to sign this simple pledge
I,_____, understand that feeding wildlife creates health problems for the animals and may create danger for humans. I agree not to feed the wildlife."

6. (principle of scarcity)

"Highlight losses rather than gains"

> "Messages highlighting losses which occur as a result of inaction are always more effective than messages that highlight savings as a result of changing behaviour."

7. Defaults

People tend to go along with the default option.

> Organ donation increased because it was defaulted on driver's licence.

8. Validation

Acknowledge people's obstacles & complaints in order to reduce reactance and defensiveness towards the message.

> "In other words, the same argument that 'recycling is important' was viewed more favorably simply when the sign also acknowledged that recycling could be inconvenient."

9. Scare tactics

Fear/Guilt/Threat - inducing messages are good for generating attention, but must be combined with suggestions of practical steps for action.

> "Couple threatening messages with empowering ones".

> "Use moderate levels of fear; emphasize that behaviour change will be effective."
e.g. "If we can't get people to stay on the trails, we'll have to close the area. So if you don't want to see that happen, make sure no one in your party goes off trail."

10. Fun tactics

Make the communication playful (humor, curiosity).

> "Playfulness" is a factor for influencing human behaviour.

11. Values (intrinsic & extrinsic)

"A key question to ask for effectively structuring persuasive messages is: What kind of values is my message appealing to?"

> "A value is usually defined as a 'guiding principle in the life of a person'."

> "Make a list of all the possible reasons you can think of for engaging in a particular behaviour that you're interested in (e.g. encouraging car-sharing). Divide them into 'self-interested' and 'self-transcendent' group, and before you reach for the money-saving lever, try to construct a less self-serving way of framing your message."

Principles for effective communication of sustainable behaviour:

a. Know your audience

"Use culturally appropriate messages designed to fit the audience. Language should be tailored to users".

> "Link the message to the concerns of different audiences - some care about leaving a healthy environment for future generations, some about access for specific activies."

b. Message simplicity

Design messages that are short & easy to understand.

> - Longer sentences are harder to read than shorter sentences.
- Longer words are harder to read than shorter words.
- Sentences in the passive voice are harder to read than sentences in the active voice.
e.g. Passive: The wetland petition was signed by more than 800 citizens.
Active: More than 800 residents signed the petition in support of protecting the wetland.

c. Message specificity

Don't just tell people 'be sustainable', but also tell them how (e.g. 'reuse your room towels').

> Communicate specifically defined goals rather than generally 'do your best'.

> "Describe in positive, clear terms the specific action that you want people to do."

d. Make it personal

"Focus messaging on an individual. Use 'you'."

> "no-one likes to be talked at as if they were just a number or an anonymous dot in a huge crowd."

> "Make your messages as personalized as possible. Create climate messages about "my region, my town, my street, my house, me".

e. Make it collective

'We' is the most important word in behaviour change.

> Appeal to people's intrinsic motivations (e.g. a sense of belonging)

> Everyone else is doing this already! Join us!

f. Kairos (the opportune moment)

The right moment in space & time to present information is essential to successfully influencing an intended behaviour.

> "Prompts are most effective if specific and close to where & when the desired behaviour occurs."

> Reminding people about sustainable behaviour "exactly when they're taking the action you want to change."

g. Empowering Communication

Use positive messages over negative ones.

> Earlier research has shown that using positive wording rather than negative wording, reinforces the effectiveness of a prompt.

> "People don't respond well to negative messages because they take away most people's feelings of agency and control"

Words that work: (suggestive terms & phrases for positive impact)

adapted from CoaST:

Thank you! Well done!
Thank you - we're all great! Being a green visitor makes you
a great person and we love you for it!
Everyone else is doing this already! Join us! Be a part of it!
...contagious change...ready or not...
Less of that means more of this (e.g. less rubbish, more clean & beautiful beaches)
It's where we spend our time together as families

utilize the words:

"because" (e.g. Please donate because it's very important)
"now" (e.g. Participate in the program now)
"imagine"

from website WaterWordsThatWork.com:

Make a Difference
Doing Your Part
It affects you
Here's what you can do
Working together
Save money
Before it's too late

https://www.waterwordsthatwork.com/our-methods/messagemethod/words/

from Futerra (Words that Sell; terms that describe a sustainable lifestyle; terms "that people liked and understood"):

Zero waste
Less is more
Second chance rubbish
Smart appliances
Energy-greedy appliances
Flight addict
Habitual flyer
Savvy driving
In-house generation
Independent power
Finite energy sources
One Planet Living
Green lifestyle
Conscious lifestyle
Square deal
Globally alert
Citizen consumers
Carbon footprint
Positive footprint

Sustainable Touristic Behaviour: LEAP workshop

Workshop conductor: Nikos Antzoulatos
Participants: Communication designers from LEAP Design agency
Location: St Austell, Cornwall
Date: August 2013

Acronyms:

I = Workshop conductor

CD1 = Communication Designer 1
CD2 = Communication Designer 2
CD3 = Communication Designer 3
CD4 = Communication Designer 4
CD5 = Communication Designer 5
CD6 = Communication Designer 6

I: Good morning everyone. Once again, thank you very much for doing this workshop with me. I really appreciate everyone's time and concern.

The main purpose of this workshop is to have your point-of-view as professional communication designers on my research. For the next hour what we will do is [pointing to the table of contents on the PowerPoint presentation] – I will start by giving you a brief overview of the focus of my research on encouraging sustainable behaviours; we will see a few examples on the power of words; then I will show you some of my conceptual messages; and finish this session by having your feedback, comments & hopefully some suggestions for improving my current concepts.

[01:06: At this point, I start my PowerPoint presentation and explain the team the focus of my research: the complex area of changing human behaviour].

[05:15: At this point, I provide the team with a couple of examples [referring to the two videos, Cialdini's and Purplefeather's] that demonstrate the power of words: the importance of carefully researched wording to frame a persuasive message]

I: What I would like us to do now is to form two groups; one group will use this board [pointing at the card-board with my conceptual messages on it] and the other group will use this board [pointing at the other card-board with my conceptual messages on it]. I would like to have your viewpoint as communication designers – a 'quick & dirty' evaluation of the messages in terms of wording, typography, appearance, by using these stickers [giving the team the set of coloured stickers] – a green sticker is a sticker that represents a message that you as communication designers liked or you think it might influence the intended behaviour, a red sticker is one that represents a message that you didn't like or you think it might not influence the intended behaviour, and the yellow one goes somewhere in the middle. Let us not spend too much time on that, I think ten (10) minutes would be more than enough – see where it takes us.

[13:00: At this point, the team starts to exchange viewpoints & use the coloured stickers & evaluation forms provided to indicate their opinion on the conceptual messages, through a quick brainstorming procedure].

[21:00: The workshop conductor brings the 'quick & dirty' procedure to a close].

I: Now, I would like to ask you to choose one message that you liked & one message that you didn't like, each one of you, and provide a small written feedback on them. You don't have to go into many details but try to take into consideration the typography, the overall visual appearance, the colours, the wording. I will also have to give you no more than ten (10) minutes for this part of the workshop, as well.

[22:30. At this point, each member of the design team provides written comments & feedback on two messages of their choice – one the did like & one they did not like, as professional communication designers, taking into consideration the typography, the overall visual appearance, the colours and the wording used].

[30:30: The workshop conductor brings the 'detailed evaluation' part of the workshop to a close].

I: For the last part of this workshop, we are going to revisit the brief. So, each group comes together and tries to design, to sketch a conceptual persuasive message – one group will have sustainable energy behaviour, and the other group will have sustainable water behaviour. Like these ones [pointing at my conceptual messages on the cardboards], the idea is to think about a short, persuasive message that will be placed in a hotel, it refers to the tourist within the hotel room – this group will try to persuade the tourist to use energy more carefully, and this group will try to persuade the tourist to use water more carefully. When each group finishes, they will place their message on the board and try to unpick it – say a few words why the message is the way it is. This will take fifteen (15) minutes and will be the last part of our workshop, ten (10) minutes for the design and five (5) minutes for the presentations.

I will also provide you with some help – I brought today some words, that different people have found useful – words that work; for example, Futerra, the sustainability communicators have done a research and found that these words [providing the paper with the list of words to the teams], and they saw that these words are words that people like & are familiar with, and comfortable with – also words form CoaST, and from a couple other websites. So, if you want to utilise some words from here, that would be even better. It's totally up to you, see if that inspires you.

One more thing that is really important – please try to keep in mind that we are trying to remind people that they need to care in a time they mostly want to be *careless*. Something that is the paradox in my research.

[33:00. At this point, each designer teams come together to create from scratch one persuasive message that aims to encourage sustainable touristic behaviour (in relation to water usage, & energy usage), to be used within the context of hotel rooms, as they were briefed].

[47:30. At this point, the teams place their messages on a card board so everyone can see them, and explain their rationale behind their designs].

I: The main question is, why is this message as it is? What was your thinking behind it?

CD1: Looking at the choices you presented us, I think we liked the personalisation aspect for a hotel room, we thought this was a good touch, would get people's attention, so we used that aspect for the main start. We felt the consensus approach seem to make a big difference on the video you showed us [referring to the Cialdini's YouTube video], so that's why we tried to make a message about "previous guests in this room" have helped us to achieve a certain statistic. And then a quite of soft direction, you know, "with your help we can save even more, please be considerate with your water use, thank you". And then the smiley face just again to use an image that hopefully makes people feel that it's a choice that they can take willingly and again, reinforces it is a positive message.

I: OK, I have a couple of questions for you. First of all, I see you use 'Thanks' in a handwritten way ...

CD1: That would be the idea, yes. It's not brilliantly presented there but .. [laughs].
CD2: Yes, yes.

I: So, it's the hotelier's, for example, handwriting that again thanks the individual?

CD2: Yes, so it's a personal thing.
CD1: Anything else we've got that I've missed? [referring to the rest of his design team]
CD3: No, no, that's very good.

I: Also, you have 'your' underlined. Is that on purpose?

CD1: I did that, "please be considerate with YOUR water use". I suppose, again, to try and make it more direct to the guest – I don't know, that might be a bit harsh in looking at it again.

I: Why are the numbers bigger than the rest of the words?

CD3: I think it has to draw attention to that part, you just see the numbers and you think 'oh, what's that for?', and it draws you to read the message. And the fact that is personalised as well, it draws you to read it.

I: OK, great, thank you very much. Let's proceed with the next group.

CD4: Ours goes down a similar road to the others, but – we liked the personalisation of it, but we quite liked –it's not portrayed very well in this [referring to their conceptual message]- how on one of them, on that [pointing at the H2 conceptual message], it's got a bit of playfulness to it. So it's not just a boring [51:57: inaudible], it has a bit of playfulness. It hasn't been portrayed here [referring to their conceptual message] but it's the only one I could think of [laughs]. So, it would have a bit of playfulness and the a graphic element, to make it more visually exciting but still keeping the facts, like the numbers and how they can do it, at the bottom, prominent as well.

I: Right. So as far as I see, you also like the idea of 'what most people do' in the hotels, most people choose to do the green thing.

CD4: Yes, we quote that from the video [referring to the Cialdini YouTube video], we quite liked that, yes. And then we quite like giving examples, at the bottom, just to kind of help them see how they can do it, just to show it's simple.

I: Also, the starting of your message 'Dear ' ...

CD5: ...Yes, we quite liked the personalisation [referring to C1 conceptual message], because it would automatically attract the attention of whoever's in the room.

I: Now you are giving me the chance to ask you, if you saw a message that had your name on it …

CD5: … I would automatically read it because it has got my name on it. So, it doesn't necessarily have to be in your face [referring to a message standing out vividly] but because it's got – obviously they've personalised it you want to read on. That's how I feel.

I: Having completed this final design stage, this workshop comes to an end. I would like to thank all of you very very much, for your time and your thinking today. [applauding & laughs].

[55:00: Exchanging regards. The workshop conductor brings the workshop to a close].

Appendix 13

Early testing of conceptual sustainability signs: Evidence from an exploratory field-test with a Cornish accommodation-provider.

Most guests staying in this cottage use the waste bin provided below to dispose their sanitary items.

Join your fellow guests in **protecting our reed bed** & dispose your sanitary items in the **waste bin provided** here.

Thank you.

Appendix 14

Online Survey A

Un-sustainable tourist behaviours

1. Which are the five most unsustainable behaviours your visitors engage in? (for example, "visitors leaving lights on while away", or "visitors throwing breakfast packaging in the waste and not recycle bin")

	Response Count
	46
answered question	46
skipped question	0

Q1. Which are the five most unsustainable behaviours your visitors engage in? (for example, "visitors leaving lights on while away", or "visitors throwing breakfast packaging in the waste and not recycle bin")

#	Response	Date
1	Driving with no regard for other (sometimes slow) drivers on country roads. Not using local shops. leaving litter (dog waste in plastic bags is the worst). Spending their days driving to 'attractions' rather than enjoying the natural world. Using too much water & electricity.	Nov 6, 2012 11:47 AM
2	leaving lights on...simples	Nov 5, 2012 3:03 AM
3	Turning up the heating and opening the windows in winter.	Nov 1, 2012 4:48 AM
4	1. Buying food that is over-packaged in plastic 2. Not recycling the packaging tho true to say that Cornwall Council now only recycles bottles so any other plastic has to be thrown in the bin. 3. Opening the windows instead of turning the heating down 4. Leaving lights on 5. Driving to the other end of the county when there are so many places to visit locally. Note the above applies far more to our self-catering guests than our B&B guests who do tend to get caught up in the spirit of sustainable living - at least whilst staying with us!	Nov 1, 2012 2:16 AM
5	Turning the heating timers on to all day - when they are out. We have oiled fired boilers so very expensive and a total waste of energy money. Not taking their recycling to the recycling centre. - or leaving for the collection. Turning the hot water to be heated all day - again an oil fired boiler - so wasted energy / costs. Leaving lights on in the external games room. We have all the bells and whistles you can think of regarding energy efficiency as my husband has a company in the arena - including zone timers / thermostats; individual rad thermostats; solar water; air source heat pumps etc. - but the guests can override these.	Nov 1, 2012 12:58 AM
6	Visitors and 2nd home owners leave lights on whilw away---sometimes for weeks Put trash out on wrong day so birds, cats and foxes redistribute around the county Not recycling Using Chelsea tractors with high carbon footprint AN Other	Oct 31, 2012 6:27 AM
7	Visitors not recycling. Visitors having the windows open and heating on full blast. (Its underfloor heating so the boiler goes into overdrive to try to get the temp up to the thermostat levels. I have even had people in teashirts and shorts lean out of open windows complaining that the building isnt warm enough!) Leaving lights on Doing big food order from Tesco for delivery rather than buying local produce Rather than building a small fire in the provided burner in the fire pit in the garden, moving the burner and building a large bonfire. (I have been known to respond to this by turning the hosepipe onto the bonfire.) I am not really a horrible fawlty towers style landlady. If they are asked not to build a bonfire, are warned not to build a large bonfire and directed to a stack of small dry logs for the burner, and instead they raid either the stack of new fence posts, or the stack of branches seasoning to build a huge bonfire by the side of the building they can't be surprised when I follow through with my promise to put any such fire out with the hosepipe because its dangerous.)	Oct 31, 2012 4:38 AM
8	Unthoughtful water usage	Oct 31, 2012 4:23 AM

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Q1. Which are the five most unsustainable behaviours your visitors engage in? (for example, "visitors leaving lights on while away", or "visitors throwing breakfast packaging in the waste and not recycle bin")

#	Response	Date
9	Visitors leaving lights on in bedroom Non residents changing baby in our car park and leaving used nappies! Eyes bigger than belly, ordering Full breakfast with all items when they don't like tomatoes/mushrooms	Oct 31, 2012 3:53 AM
10	1. leaving the heating on and opening the windows 2. going out and leaving the lights on 3. leaving taps dripping 4. not recycling their rubbish 5. driving short distances	Oct 31, 2012 3:49 AM
11	Both of those things, plus Leaving windows open rather than turning heating down Not washing recyclable items	Oct 30, 2012 4:27 PM
12	people throwing food away-in huge & ridiculously overpackaged amounts-despite me leaving compost bin & a request for any food I can give to the pigs/goats/ducks we keep....GGRRRRRRRRR!	Oct 30, 2012 1:17 PM
13	1. take a couple of days to get used to recycling (everything goes into the black bag) 2. have three showers a day 3. drive everywhere! 4. only use local shops for the odd item they forgot to pick up at the supermarket 5. prefer to sit in room and drink rather than enjoy local hospitality (perhaps more due to the recession?)	Oct 30, 2012 11:48 AM
14	Leaving oven on whilst out for the day Turning heating up and opening windows Leaving lights on whilst out for the day Throwing away lots of unused food at end of stay Not sorting out recycling - putting everything in waste bin	Oct 30, 2012 9:16 AM
15	1. Turning up the heating to maximum then opening the windows. 2. Wanting heating turned on in the middle of summer when the weather is warm and everyone is wearing Tshirts. 3. Not turning off lights during the day when they've gone out. 4. Not recycling. 5. Creating too much rubbish. One family of 5 who come every year produce a black sack of rubbish EVERY DAY of their three-week stay.	Oct 30, 2012 9:05 AM
16	Leaving lights on, opening windows instead of turning down the heating, not recycling (not all of every group) using a lot of toilet paper - they must eat it!	Oct 30, 2012 7:56 AM
17	too much use of cars and not supporting local shops	Oct 30, 2012 7:55 AM
18	Not separating rubbish and recycling Not putting recycling into the correct bins Using gas fires in static caravans even in warm weather and with the doors open Leaving lights on day and night Leaving outside taps running	Oct 30, 2012 7:39 AM
19	Visitors not caring for towel agreement notices - however formulated and/or positioned in bathrooms - or deliberately throwing ALL towels on the floor to have them changed. This unsustainable behavior has been increasingly noticed by hoteliers and reported at Legambiente Turismo audits in the last few years.	Oct 30, 2012 7:08 AM

	Q1. Which are the five most unsustainable behaviours your visitors engage in? (for example, "visitors leaving lights on while away", or "visitors throwing breakfast packaging in the waste and not recycle bin")	
20	Buying special clothes	Oct 30, 2012 7:01 AM
21	putting the heating on full then opening all the windows	Oct 30, 2012 6:39 AM
22	Travelling to Cornwall is probably top. Recycling is an issue between the complexity of having to sort in Cornwall, when many places require no sorting, to mismatch between change day and local authority collection day.	Oct 30, 2012 6:07 AM
23	Visitor travel Putting general waste in recycling bin, and vice versa (We are an art gallery)	Oct 30, 2012 6:01 AM
24	1. unrespect the local culture 2. food waste 3. not ricycle of food and materials	Oct 30, 2012 6:01 AM
25	Turning radiator up and opening window Leaving lights on Throwing recyclable material in general waste bins Taking leaflets from our displays then screwing them up & putting them in the bin Ordering more food than they're going to eat	Oct 30, 2012 5:59 AM
26	wasting paper such as napkins, leaving disposable nappies around, leaving half drunk bottles of water	Oct 30, 2012 5:29 AM
27	Leaving lights on when not in the room. Leaving TV's on standby.	Oct 30, 2012 5:24 AM
28	leaving the fires on, throwing away animal scraps, not recycling, washing their cars! leaving outside lights on	Oct 30, 2012 5:19 AM
29	1. travelling by car from Germany to St Ives and then complaining about the narrow streets and difficulty in parking in central London for a couple of nights on the way there. 2. Hanging around indoors when in is nice weather outside. 3. Running hot water down the the kitchen sink. 4. Showering twice a day. 5. Being too unfit to walk up a hill	Oct 30, 2012 5:13 AM
30	1. visitors, specially campers, throwing unwanted tents, chairs, BBQ etc in the general waste bins which is servicing for general waste only 2. Some visitors not returning items borrowed. 3. Visitors staying too long in shower 4. visitors with dogs not cleaning up after their dogs 5. visitors throwing carton boxes in the waste and not recycle bin.	Oct 30, 2012 5:00 AM
31	Heating on - windows open leaving external lights on (we are fitting photo cells) turning heating to constant whilst out turning heating thermostats up high	Oct 30, 2012 4:59 AM
32	1. no regard for heat and light costs when away from site 2. rubbish not recycled	Oct 30, 2012 4:57 AM
33	1) bagging up dog poo - and then not putting the bag in the bin 2) not taking rubbish home with them 3)travelling to get to our sites (all very hard to reach with public transport so car travel is a necessary evil)	Oct 30, 2012 4:47 AM

	Q1. Which are the five most unsustainable behaviours your visitors engage in? (for example, "visitors leaving lights on while away", or "visitors throwing breakfast packaging in the waste and not recycle bin")	
34	In Wales, particularly in 5 star quality rated self catering properties where the visitor has to have control of the heating system in order for the business to get 5 stars in the first place - the most unsustainable behaviour is putting the heating on at 30 C and opening the windows when it gets too hot - nuts!!	Oct 30, 2012 4:39 AM
35	1- Flicking cigarette butts across the beautiful landscape. 2-Not using recycling bins 3-Not sticking to designated footpaths, that leads to soil errosion on our cliffs and speeding up chance of rock falls. 4-Leaving litter and dog poo on the beaches where children and surfers play 5-Drive ridiculously large cars that don't fit in Cornwall and use so much fuel	Oct 30, 2012 4:29 AM
36	Visitors turn on diswasher when it is basically empty Visitors mess up a bed even though they haven't used it, leading to the linen being washed unnecessarily. Visitors use lights when not needed and leave them on Visitors use a small amount of soap / shampoo and throw them away Visitors that do not think to ask where their food comes from, e.g. farmed prawns from South East Asia	Oct 30, 2012 4:27 AM
37	Turning heating up to maximum and onto continuous, opening windows then going out. Not separating recycling waste from landfill waste. Using washing machines for 3 items. Tumble drying clothes when they could be left on an airer overnight. Running dishwashers when they are almost empty.	Oct 30, 2012 4:26 AM
38	bringing their own food and not buying locally leaving heating on and windows open Not using local transport Not recycling Bringing cleaning liquids (non environmentally friendly) and only using small amounts. How about a washing up liquid recycling scheme?	Oct 30, 2012 4:23 AM
39	1. Visitors travelling here and then EVERYWHERE in their cars, even when public transport available & encouraged! 2. Visitors	Oct 30, 2012 4:21 AM
40	1. not respecting local culture (e.g. dress). 2. disgusting use of water/energy (i'm on holiday, i'll have 5 baths!) 3. too much car driving around beautiful areas best explored by bike/foot etc. 4. desire for constant bargaining. 5. unaware of impact they have in general (i'm on holiday, i will do as i please)	Oct 30, 2012 4:19 AM
41	needless driving over heating bedrooms not recyling air travel when land based options available not buying ocal produce	Oct 30, 2012 4:12 AM
42	Not segregating their waste. Throwing away too much food as waste Not buying as much locally as they could Leaving lights and heating on - with windows open! Buying cheap tacky beach items for use on holiday only.	Oct 30, 2012 4:09 AM
43	I will go with tourists in general that I see as my guests are with me all day walking.:- 1. Driving to Cornwall 2. Driving within Cornwall 3. Flying to Cornwall 4. Using large supermarkets and not local produce/shops 5. Using accommodation providers who are not green/affiliated to CoaST. Paul Simmons walkitcornwall	Oct 30, 2012 4:08 AM
44	1 - not recycling 2 - buying cheap beach tat and then throwing it or leaving it behind 3 - not using public transport to get to places	Oct 30, 2012 4:08 AM

Q1. Which are the five most unsustainable behaviours your visitors engage in? (for example, "visitors leaving lights on while away", or "visitors throwing breakfast packaging in the waste and not recycle bin")

(lack of info on public transport) 4 - not walking to places that are very close (lack of info on walking paths, distant between places etc) 5 - constant washing of beach clothes

Appendix 15

Online Survey B

Communicating & Influencing Sustainable Behaviour

SurveyMonkey

1. Which of the following best describes your business?

	Response Percent	Response Count
Accommodation provision (e.g. hotel)	58.5%	31
Food and/or Liquor/Beverage provision (e.g. restaurant, pub)	9.4%	5
Activities provision (e.g. horse-riding lessons)	0.0%	0
Guided experiences (e.g. walks, visits, tours)	7.5%	4
Events organizer (e.g. festivals)	1.9%	1
Cultural/Arts/Heritage related (e.g. local produce, local crafts related)	7.5%	4
Other	15.1%	8
(If "Other" is your answer, please specify)		11
answered question		53
skipped question		3

2. What type of accommodation does your business provide?

	Response Percent	Response Count
Resort	0.0%	0
Hotel	12.5%	3
Guest house	25.0%	6
Bed & Breakfast	25.0%	6
Hostel	4.2%	1
Backpacker lodge	0.0%	0
Farm-stay	33.3%	8
Other (please specify)		6
answered question		24
skipped question		32

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3. Which of the following ratings best classifies your business?

	Response Percent	Response Count
★★★★★ (5-star accommodation)	16.0%	4
★★★★ (4-star accommodation)	72.0%	18
★★★ (3-star accommodation)	12.0%	3
★★ (2-star accommodation)	0.0%	0
★ (1-star accommodation)	0.0%	0
Other (please specify)		5
answered question		25
skipped question		31

4. Which of the following best describes your average visitor? (Choose all that apply)

	Response Percent	Response Count
Families	67.9%	19
Couples (age 35 and above)	**75.0%**	**21**
Couples (below age 35)	53.6%	15
Youth tourists (e.g. backpackers, gap-year travellers)	10.7%	3
Business individuals (age 35 and above)	32.1%	9
Business individuals (below age 35)	21.4%	6
Leisure individuals (age 35 and above)	42.9%	12
Leisure individuals (below age 35)	32.1%	9
Holiday groups (age 35 and above)	28.6%	8
Holiday groups (below age 35)	17.9%	5
Other (please specify)		2
answered question		**28**
skipped question		**28**

5. What is the average stay of your visitors?

	Response Percent	Response Count
one night	0.0%	0
two nights	14.8%	4
three nights	40.7%	11
four nights or more	44.4%	12
N/A (Not Applicable)	0.0%	0
Other (please specify)		4
answered question		27
skipped question		29

6. Do you currently use signs that encourage pro-environmental behaviour from your customers?

	Response Percent	Response Count
Yes	67.3%	35
No	32.7%	17
answered question		52
skipped question		4

7. Are there any reasons that discourage you to use signs that promote pro-environmental behaviour from your customers? (Select all that apply)

	Response Percent	Response Count
Avoid preaching to customers (people are on holiday; they do not want to be told what to do).	66.7%	6
Avoid conveying negative feelings to customers (e.g. avoid evoking feelings of guilt about water usage).	22.2%	2
Freedom preserving (visitors have paid for their holiday and should remain at liberty to make the unsustainable choice, e.g. leave the air-condition on all day).	11.1%	1
Aesthetical reasons (e.g. signs not matching with the aesthetics of guest rooms).	33.3%	3
Practical reasons (e.g. not sure how to fix the sign on the wall; signs get dirty).	22.2%	2
Maintenance reasons (e.g. signs are not easy to clean/ to maintain).	0.0%	0
Other (please specify)		4
answered question		9

8. Would you be interested in using a customisable series of signage designed to be more efficient in encouraging pro-environmental behaviours than conventional signs do?

	Response Percent	Response Count
Yes	45.5%	5
No	**54.5%**	**6**
If "Yes" is your answer, please briefly explain why		4
	answered question	**11**
	skipped question	**45**

9. Could you imagine the possible reasons why a customer might behave in environmentally unsustainable manners during their stay at a holiday provider (e.g. guest-house)? (Select all that apply)

	Response Percent	Response Count
People on holiday may wish to act differently from their everyday routine behaviour, even if that means to make the environmentally unsustainable choice (e.g. excessive shower-water usage).	60.0%	6
Visitors may possibly feel like using anything their hotel offers (e.g. shower facilities, air-conditioning, breakfast) to the maximum, because they feel they have already paid for it.	**90.0%**	**9**
The holiday-provider itself might not promote environmentally friendly behaviours (e.g. a hotel with no recycling facilities prevents its guests from recycling).	60.0%	6
When people are on holiday, they may possibly tend to worry less about environmentally appropriate behaviours.	60.0%	6
When people are on holiday, they may possibly tend to be more forgetful in their behaviour related to environmental issues.	30.0%	3

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	Response Percent	Response Count
People on holiday might not know how to behave in environmentally appropriate ways.	60.0%	6
Other (please specify)		3
answered question		10
skipped question		46

10. What kind of signs are they?

	Response Percent	Response Count
Written-text only	50.0%	13
Written-text & image	53.8%	14
Image only	3.8%	1
Other (please specify)		3
answered question		26
skipped question		30

11. Where have you placed them? Please explain (for example, on the wall near the light switch).

	Response Count
	27

answered question	27
skipped question	29

12. If you had to choose only one reason for encouraging pro-environmental behaviour from your customers, which would that be?

	Response Percent	Response Count
Mostly economic reasons (e.g. reducing energy bills of your business).	25.9%	7
Mostly environmental reasons (e.g. reducing carbon footprint of your business).	14.8%	4
Because I want to contribute positively to the environment/ to my community /to future generations.	**51.9%**	**14**
Because it is the right thing to do and I personally feel good for doing it.	3.7%	1
Other (please specify)		4
answered question		**27**
skipped question		**29**

13. How effective are your current signs in promoting pro-environmental behaviour?

	Not at all	I am not sure		Very much	Rating Average	Rating Count
	0.0% (0)	3.6% (1)	10.7% (3)	53.6% (15)	21.4% (6)	7.1% (2)	3.6% (1)	4.29	28

If you think your signs are "Very much" effective (or close to "Very much") please allow me to contact you for additional information, by providing a phone number or email in the box below. (This is just for further research purposes. This doesn't affect your anonymity. Your participation in this research always remains strictly confidential.)   5

answered question		28
skipped question		28

14. Would you be interested in using a customisable series of signage designed to be more efficient in encouraging pro-environmental behaviours than conventional signs do?

	Response Percent	Response Count
Yes	74.1%	20
No	25.9%	7
If "No" is your answer, please briefly explain why		5
answered question		27
skipped question		29

15. Could you imagine the possible reason(s) that would discourage a tourism-business (e.g. hotel) to use signs that promote pro-environmental behaviour from their customers? (Select all that apply):

	Response Percent	Response Count
Avoid preaching to customers (people are on holiday; they do not want to be told what to do).	75.0%	18
Avoid conveying negative feelings to customers (e.g. avoid evoking feelings of guilt about water usage).	54.2%	13
Freedom preserving (visitors have paid for their holiday and should remain at liberty to make the unsustainable choice, e.g. leave the air-condition on all day).	25.0%	6
Aesthetical reasons (e.g. signs not matching with the aesthetics of guest rooms).	66.7%	16
Practical reasons (e.g. not sure how to fix the sign on the wall; signs get dirty).	33.3%	8
Maintenance reasons (e.g. signs are not easy to clean/ to maintain).	20.8%	5
Other (please specify)		4
answered question		24

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16. Could you imagine the possible reasons why a customer might behave in environmentally unsustainable manners during their stay at a holiday provider (e.g. guest-house)? (Select all that apply)

	Response Percent	Response Count
People on holiday may wish to act differently from their everyday routine behaviour, even if that means to make the environmentally unsustainable choice (e.g. excessive shower-water usage).	51.9%	14
Visitors may possibly feel like using anything their hotel offers (e.g. shower facilities, air-conditioning, breakfast) to the maximum, because they feel they have already paid for it.	88.9%	24
The holiday-provider itself might not promote environmentally friendly behaviours (e.g. a hotel with no recycling facilities prevents its guests from recycling).	33.3%	9
When people are on holiday, they may possibly tend to worry less about environmentally appropriate behaviours.	37.0%	10
When people are on holiday, they		

may possibly tend to be more forgetful in their behaviour related to environmental issues.	22.2%	6
People on holiday might not know how to behave in environmentally appropriate ways.	37.0%	10
Other (please specify)		4
answered question		27
skipped question		29

17. As we approach the high season, what are you most worried about in terms of visitor behaviour? (e.g. so much food being wasted, so much noise being created, too much car use). This is an anonymous survey that strictly respects your privacy, so please feel free to share your deepest worry with us.

	Response Count
	33
answered question	33
skipped question	23

18. Would you have an example of a good communication you have seen elsewhere, that you liked and you think it changed your behaviour? (If there is a picture you would like to share, please email me by clicking Here or use this address: antzoulatosnikos@hotmail.com)

	Response Count
	11
answered question	11
skipped question	45

19. Is your business within the county of Cornwall (England)?

	Response Percent	Response Count
Yes	85.3%	29
No	14.7%	5
answered question		34
skipped question		22

20. Thank you very much for your time and concern. Please, feel free to add any other comment or suggestion.

	Response Count
	12
answered question	12
skipped question	44

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Page 2, Q1. Which of the following best describes your business?

1	national park authority	Jul 23, 2013 6:14 AM
2	Tourist information centre	Jul 23, 2013 4:18 AM
3	travel writer	Jul 23, 2013 3:45 AM
4	sustainable transport awareness raising	Jul 23, 2013 1:39 AM
5	Care for learning disability adults	Jul 22, 2013 8:31 AM
6	Local Authority	Jul 22, 2013 5:23 AM
7	transport	Jul 22, 2013 5:09 AM
8	researcher	Jul 22, 2013 4:42 AM
9	Researcher	Jul 22, 2013 4:35 AM
10	educational hostel, wedding/conference centre	Jul 22, 2013 1:59 AM
11	protected landscape	Jul 22, 2013 1:51 AM

Page 3, Q2. What type of accommodation does your business provide?

1	furnished holiday let	Jul 22, 2013 2:42 PM
2	cottage let	Jul 22, 2013 4:26 AM
3	self catering	Jul 22, 2013 2:18 AM
4	holiday let	Jul 22, 2013 2:09 AM
5	Holiday cottages	Jul 22, 2013 1:47 AM
6	Self catering holiday cottages	Jul 22, 2013 1:44 AM

Page 3, Q3. Which of the following ratings best classifies your business?

1	we haven't entered into staring yet, still refurbishing hotel	Jul 30, 2013 1:21 AM
2	unrated	Jul 22, 2013 3:38 AM
3	with Gold award Visit England	Jul 22, 2013 2:18 AM
4	Un-graded, but ranging 4 to 5 star.	Jul 22, 2013 1:47 AM
5	Quality in Cornwall acredited	Jul 22, 2013 1:41 AM

Page 3, Q4. Which of the following best describes your average visitor? (Choose all that apply)

1	Singles old and young	Jul 22, 2013 3:38 AM
2	school/college groups	Jul 22, 2013 2:00 AM

Page 3, Q5. What is the average stay of your visitors?

1	Longer in Summer	Jul 30, 2013 3:55 AM
2	varies encompasing all above	Jul 22, 2013 3:38 AM
3	week	Jul 22, 2013 2:18 AM
4	always 7 nights	Jul 22, 2013 2:09 AM

Page 5, Q7. Are there any reasons that discourage you to use signs that promote pro-environmental behaviour from your customers? (Select all that apply)

1	Although we, as a business and personally are into recycling (and recycle all guests waste), being sustainable, we haven't really thought about getting that message across to guests.	Jul 30, 2013 4:08 AM
2	Not needed. Small double suit. I recycle and facilitate energy saving through my own actions. etc. for the the room.	Jul 22, 2013 3:48 AM
3	Don't really use signs but verbally encourage responsible behaviour	Jul 22, 2013 2:02 AM
4	we do not sell direct to customers	Jul 22, 2013 1:40 AM

Page 5, Q8. Would you be interested in using a customisable series of signage designed to be more efficient in encouraging pro-environmental behaviours than conventional signs do?

1	I think that everyone should think about their impact on the environment all the time.	Jul 30, 2013 4:08 AM
2	to assist in making pro-environmental behaviours the norm	Jul 22, 2013 1:54 AM
3	I prefer to use my own methods of encouraging environmentally friendly behaviour	Jul 22, 2013 1:40 AM
4	could be beneficial for both parties	Jul 13, 2013 4:35 AM

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Page 5, Q9. Could you imagine the possible reasons why a customer might behave in environmentally unsustainable manners during their stay at a holiday provider (e.g. guest-house)? (Select all that apply)

1	If you are into being green you are prepared to make an effort where-ever you are. If you're not into the environment, things need to be made easy to recycle etc otherwise you won't make the effort.	Jul 30, 2013 4:08 AM
2	They realy dont care ? The "Up yours" type. Don't forget the swine :0	Jul 22, 2013 3:48 AM
3	the hotel is not their personal space so they don't feel they have control over the hotel's enviromental practices. Plus they don't feel they would get any personal satisfaction if they behaved sustainably	Jul 13, 2013 4:35 AM

Page 6, Q10. What kind of signs are they?

| 1 | All incl web | Jul 22, 2013 5:47 AM |
| 2 | solar panels, 'green' cleaning products, compressed sawdust 'logs' for the wood burner, sign not to put things down the loo | Jul 22, 2013 2:16 AM |

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Page 6, Q11. Where have you placed them? Please explain (for example, on the wall near the light switch).

#		
1	in information folder	Aug 4, 2013 2:03 PM
2	bathrooms	Jul 30, 2013 4:20 AM
3	Parcel type tag hanging from shower room door handle	Jul 30, 2013 1:33 AM
4	near light switches, by the sink and shower, by the towel rails	Jul 30, 2013 1:25 AM
5	In our room folders we outline our pro-environmental attitude to encourage our guests to do the same	Jul 30, 2013 12:27 AM
6	By recycling rubbish bin, by door into dining room	Jul 24, 2013 1:02 AM
7	Bathroom (towel policy by towels) Recycling bin in hallway	Jul 23, 2013 1:50 PM
8	In a binder	Jul 22, 2013 2:45 PM
9	Near switches and plug sockets	Jul 22, 2013 8:33 AM
10	In bathroom next to basin With tourist literature Inside information folder	Jul 22, 2013 7:24 AM
11	near light swaths,,,loo flushing....web....bedroom browser with reports on our national eco awards	Jul 22, 2013 5:47 AM
12	Car share signs on the main approaches to Truro encouraging car-sharing	Jul 22, 2013 5:28 AM
13	with literature and on walls with recycling facilites	Jul 22, 2013 4:26 AM
14	On the back of our toilet doors, throughout our exhibition area.	Jul 22, 2013 3:51 AM
15	On worktop/beverage area in rooms & written environmental policy etc in info files. We are against signs being stuck to walls wherever you go even if for 'good' reasons.	Jul 22, 2013 2:48 AM
16	in a folder in the cottage, in the office, on the walls	Jul 22, 2013 2:37 AM
17	brochures placed with every order	Jul 22, 2013 2:33 AM
18	in information files; in/on recycling bins; on walls; on doors	Jul 22, 2013 2:22 AM

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Page 6, Q11. Where have you you placed them? Please explain (for example, on the wall near the light switch).

19	Most of our "signs" are embedded within other documentation such as on menus or in the guest room directories.	Jul 22, 2013 2:18 AM
20	Information folder	Jul 22, 2013 2:16 AM
21	on walls	Jul 22, 2013 2:03 AM
22	Text in brochure and Web site - agents for a number of cottages. Specifically environmentally friendly cottages have text provided to include inside the cottage.	Jul 22, 2013 1:49 AM
23	by the toilets, in the welcome hampers, on notice boards	Jul 22, 2013 1:46 AM
24	re-cycling room	Jul 22, 2013 1:43 AM
25	All around restaurant and in the loo	Jul 22, 2013 1:41 AM
26	bins for recycling. in the guest information pack.	Jul 22, 2013 1:38 AM

Page 6, Q12. If you had to choose only one reason for encouraging pro-environmental behaviour from your customers, which would that be?

1	Time saving, I don't have to sort guests rubbish because they didn't.	Jul 24, 2013 1:02 AM
2	Because of the socio-economic reasons of reducing single occupancy car use	Jul 22, 2013 5:28 AM
3	both of the last two	Jul 22, 2013 1:41 AM

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Page 6, Q13. How effective are your current signs in promoting pro-environmental behaviour?

1	info@ecoguesthouse.co.uk	Jul 22, 2013 5:47 AM
2	ndennis@cornwall.gov.uk	Jul 22, 2013 5:28 AM
3	0172672128	Jul 22, 2013 2:37 AM
4	01566772141	Jul 22, 2013 1:38 AM

Page 6, Q14. Would you be interested in using a customisable series of signage designed to be more efficient in encouraging pro-environmental behaviours than conventional signs do?

1	It would not fit the environment of a holiday home	Jul 22, 2013 2:45 PM
2	signage is used as part of specific, targeted campaigns	Jul 22, 2013 5:28 AM
3	I think you should be able to tweak them to your own company's style and culture.	Jul 22, 2013 3:51 AM
4	We try to limit the amount of signs we have around the building, we're keen not to come across as "preachy" to our guests, and also signs don't really fit into our design ethos.	Jul 22, 2013 2:18 AM
5	I don't want signs all over the property. I would rather lead by example	Jul 22, 2013 2:16 AM

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Page 6, Q15. Could you imagine the possible reason(s) that would discourage a tourism-business (e.g. hotel) to use signs that promote pro-environmental behaviour from their customers? (Select all that apply):

1	Previous use of Coast towel policy signs seemed to encourage greater towel discarding for clean!	Jul 30, 2013 1:33 AM
2	I can see no reason that would discourage use of signage	Jul 22, 2013 2:03 AM
3	Lack of will/awareness	Jul 22, 2013 1:41 AM

Page 6, Q16. Could you imagine the possible reasons why a customer might behave in environmentally unsustainable manners during their stay at a holiday provider (e.g. guest-house)? (Select all that apply)

1	People more concerned with having a good time than doing the 'right' thing.	Jul 24, 2013 1:02 AM
2	because they see no connection between their small scale behaviour and the big picture	Jul 22, 2013 2:03 AM
3	Lack of recycling facilities in town	Jul 22, 2013 1:41 AM

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Page 7, Q17. As we approach the high season, what are you most worried about in terms of visitor behaviour? (e.g. so much food being wasted, so much noise being created, too much car use). This is an anonymous survey that strictly respects your privacy, so please feel free to share your deepest worry with us.

#	Response	Date
1	car use	Aug 4, 2013 2:03 PM
2	Litter-on the beaches, in the sea and in the town. Food wastage. Re-cycling of cans, plastic bottles etc.	Jul 30, 2013 4:37 AM
3	waste ! Food , energy from leaving everything on all day to needing clean towels every day	Jul 30, 2013 4:22 AM
4	Food waste, noise etc is always a concern but only increases pro rata to the numbers of guests we have staying.	Jul 30, 2013 2:18 AM
5	Car usage, abandoning recycling habits, food waste and extra rubbish due to packaging	Jul 30, 2013 1:34 AM
6	Lights, tv etc being left on. Excess noise.	Jul 30, 2013 1:28 AM
7	Noise	Jul 29, 2013 11:46 AM
8	People who book but dont turn up. People who bring disposable plates, cups etc and create mountains of rubbish. County council's new policy of not accepting rubbish at the tip unless its fully sorted, means that I get the delight of going through peoples rubbish bags to sort it out.	Jul 24, 2013 1:07 AM
9	Excessive use of resources (water, power); creating additional waste which is not recycled; more packaged food purchased so more packaging waste (plastics, card, etc). More use of supermarket plastic bags - visitors out of routine forget to take their reuseable bags. Visitors affecting wildlife and flora by their behavior	Jul 23, 2013 1:54 PM
10	amount of rubbish generated	Jul 22, 2013 2:46 PM
11	Food waste	Jul 22, 2013 8:34 AM
12	so much food being wasted, so much WATER being wasted, so much electricity being wasted	Jul 22, 2013 7:47 AM
13	Lights and bathroom fans being left on for long periods while people are out of the room.	Jul 22, 2013 7:29 AM
14	too much petrol car use...we have electric car charger which we encourage	Jul 22, 2013 5:50 AM
15	Concerns about the amount of public waste especially from our beach users. Concerned about Food waste and reduction in our amount of recycling as guest don't normally recycle very well , even tho the facilities are there.	Jul 22, 2013 5:37 AM

Page 7, Q17. As we approach the high season, what are you most worried about in terms of visitor behaviour? (e.g. so much food being wasted, so much noise being created, too much car use). This is an anonymous survey that strictly respects your privacy, so please feel free to share your deepest worry with us.

#	Response	Date
16	increase in car use, particularly at peak times	Jul 22, 2013 5:30 AM
17	Litter	Jul 22, 2013 3:59 AM
18	Too much car use driving around.	Jul 22, 2013 3:52 AM
19	Too much car use. Disrespect for our environmental policy by eg., taking 20 min showers! Not valuing our countryside by littering	Jul 22, 2013 2:53 AM
20	too much car use, wasting energy, using supermarkets instead of farmers markets small shops	Jul 22, 2013 2:39 AM
21	flying in, large cars with heavy consumption, unrestricted use of energy and water	Jul 22, 2013 2:39 AM
22	food waste	Jul 22, 2013 2:23 AM
23	Too many cars and us not being able to provide sufficient parking for our staff, many of whom choose to work with us because we are able to provide free parking facilities for them	Jul 22, 2013 2:19 AM
24	property damage	Jul 22, 2013 2:19 AM
25	food wastage, no recycling, excess use of heating for property and water. using supermarket home delivery instead of the local shops. using tumble drier instead of line drying laundry	Jul 22, 2013 2:10 AM
26	creation of waste which we are institutionally not equipped to deal with (I mean EU/UK/Cornwall/individual business are not equipped to deal with it).	Jul 22, 2013 2:08 AM
27	Over use of water Litter Traffic congestion / pollution	Jul 22, 2013 2:04 AM
28	Flushing rubbish down the toilets and into our reed bed. Leaving lights on. Using toxic products Noise pollution Trashing the hot tub through misuse. Using the wrong wood.	Jul 22, 2013 1:49 AM
29	Eating fish and produce that are not sustainable e.g. endangered species/imported fish and other foods	Jul 22, 2013 1:46 AM
30	dog fouling	Jul 22, 2013 1:44 AM
31	food waste putting heating on and leaving windows open leaving lights on	Jul 22, 2013 1:41 AM

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Page 7, Q17. As we approach the high season, what are you most worried about in terms of visitor behaviour? (e.g. so much food being wasted, so much noise being created, too much car use). This is an anonymous survey that strictly respects your privacy, so please feel free to share your deepest worry with us.

| 32 | Rubbish on beaches | Jul 22, 2013 1:40 AM |
| 33 | leaving electrical items on, e.g. heating | Jul 22, 2013 1:39 AM |

Page 7, Q18. Would you have an example of a good communication you have seen elsewhere, that you liked and you think it changed your behaviour?
(If there is a picture you would like to share, please email me by clicking Here or use this address: antzoulatosnikos@hotmail.com)

1	On the beaches-maybe a simple sign showing how litter on the beach can kill marine animals.	Jul 30, 2013 4:37 AM
2	No	Jul 29, 2013 11:46 AM
3	The Surfers Against Sewage campaign for cleaner' beaches about not flushing inappropriate materials down the toilet. We use these in the rooms	Jul 22, 2013 7:29 AM
4	I really enjoy the futura branding for sustainability. I think what works best is using language that encourages staff to do as others do. People also appreciate a community 'save a towel and we will plant a tree' done by Accor hotels.	Jul 22, 2013 5:37 AM
5	Can't think of any	Jul 22, 2013 3:52 AM
6	Graffiti in a restaurant toilet which had been drawn professionally by an artist, it conveyed 'green' messages. The restaurant was told to remove it by Visit Britain!	Jul 22, 2013 2:53 AM
7	everything COAST does	Jul 22, 2013 2:39 AM
8	A sign outside a pub just said 'Fresh, Local, Seasonal' inside was a map showing food miles and suppliers. St Michael's Hotel in falmouth has some good signage.	Jul 22, 2013 2:19 AM
9	a sign next to a main road saying 'Next fuel 500million years away'	Jul 22, 2013 2:08 AM
10	CoaST images and posters	Jul 22, 2013 1:49 AM
11	The SAS poster to encourage people not to throw stuff down the loo. We have this poster but it's a very simple, powerful message	Jul 22, 2013 1:46 AM

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Page 7, Q20. Thank you very much for your time and concern. Please, feel free to add any other comment or suggestion.

#	Comment	Date
1	I think that it's a great idea to remind visitors to Cornwall that they should still be re-cycling even though they are on holiday and giving them tips on how to be more environmentally friendly. Good Luck!	Jul 30, 2013 4:37 AM
2	I did a quick room check on Saturday, when a group of people we had here had just left to go to a wedding (3pm) i turned off 6 lights and 3 fans !	Jul 30, 2013 4:22 AM
3	I would like o see more attractive use of signage to make customers aware.	Jul 30, 2013 1:28 AM
4	My largest problems with unsustainable behaviour are with guests who live in the UK but for whom English is not their first language and where a percentage of the group never try to speak English.	Jul 24, 2013 1:07 AM
5	Goverment needs to encourage not just talk about it. We are achieving national eco awards and getting very little help or publicity	Jul 22, 2013 5:50 AM
6	We do a huge amount at our hotel for sustainability but chose not to openly share with out guests. We feel our hotels should try and be as sustainable as possible without taking away from the experience.	Jul 22, 2013 5:37 AM
7	We have many examples of 'signage' which encourage sustainability for customers, visitors and employees. I have used the car share signs as perhaps our most visible example.	Jul 22, 2013 5:30 AM
8	Education of the young and normalising environmentaly sustainable behaviour is the way forward.	Jul 22, 2013 3:59 AM
9	sorry I have not got back to you Nikos - we were under extreme time pressure to finish our indoor pool. I am free to chat now Pat Smith Bosinver 07971298913	Jul 22, 2013 2:39 AM
10	biggest problem is that majority of people are disconnected from the environment they live off, which is dangerous for all.	Jul 22, 2013 2:08 AM
11	I think another barrier to adopting a more sustainable approach can be the huge amount of paperwork/expense (GTBS & SRA) and sheer bloody effort e.g. really poor waste/refuse services that should offer innovative recycling & food waste services. So frustrating!!!!!	Jul 22, 2013 1:46 AM

Appendix 16

Additional credits of Figures and Tables used in thesis

- **Typical hotel-towel card** (image source: www.beyondattitude.com)
- **Power Aware Cord** (image source: http://www.flickr.com/photos/interactiveinstitute/page3/)
- **Basketball Trash Bin** (image source: www.cyclestreets.net/location/12353/)
- **Flower Lamp** (image source: http://www.flickr.com/photos/interactiveinstitute/with/4546007505/#photo_4546007505)
- **Puzzle Light Switch** (image source: http://www.tii.se/aware/)
- **Speed Bump** (image source: http://imageshack.us/photo/my-images/267/speedbump.jpg/)
- **Urinal Fly in Amsterdam's Schiphol Airport** (image source: https://worksthatwork.com/1/urinal-fly)
- **User-Interface design is a challenging process** (image source: stuffthathappens.com; credit: Eric Burke).
- **Documentation on how to shut down the computer** (Image source: Craft Design, http://www.slideshare.net/crafted/10-usability-heuristics-explained?qid=59b49006-9182-4620-8bf4-13c8a1443522&v=default&b=&from_search=1)

Appendix 17

An exploration of words and phrases (synonyms and related concepts) related to specific 'Elements of Persuasion', based on Roget's Thesaurus of English Words and Phrases.

Defaults	Social Norms ✓	Authority ✱ ✓	Commitment	✓ Priming ✱	✓ Personalisation
(unless) notice, (if), although, (choose to) (avoid) (cancel) choose between , if you make no other choice, (in case you), and/or, is soon as, directly (require) , come short run out, dry up, stand in need of, not enough, (ask for more) (you can always ask for more) ... only when you want.	(we) (us), (together) (join us) connect unite, group, (normal) (the right thing to do) justly, ethical, link (as usual) (of course) (most of us) (usual) (standard) (in line with) (in keeping) (typical) convention, habit (common) (easy) (according to) (regularly) established, moral (tribe) communism part, (be part of) (expected) (we expect) accept, standard add, (contribute) help, cooperation (complement) , member, help, people good	(skills) (expertise), (guru) ingenious, art artist, expert, (experience) (knowledge) (intangible value), smart (able), specialist, speciality, (sure) sureness, power, standard, rule official, (staff) (confidence) absolute, (follow) (meant) capability, (ability), weight drive, (vital role) suggestive	(promise) (faith) devotion assure, (enthusiasm) flirt, fidelity, (love) persevere, persist revival, (strength) (honour) solidity, (consistency) smooth strong belief in plighted word, word of honour, (intention) (fair words) credit, (voluntary commitment) bargain, (mutual) subscribe, contribute, (generous) (give) (spare for) make time for, have time for, (consider)	(good/bad), opinion, (reputation) earn, have, (concern) inform, open the eyes, shift our minds, (importance) weight (value) (insist) no laughing matter, notable point,	(you) yourself personality, bonding, self-interest, touch attach, (intimate) (direct) individuality, character, characterize self-interest (relevant to) especially, (suitable for) particular (name) own (specificate to) , detail, (being attentive to....) (your needs) (each)

• (a green visitor) Being environmentally-friendly makes you a great person and we love you for it!

• Everyone else is doing this already! Join us!

• Thank you – we're all great!

• ASK YOUR VISITORS AT CHECK-IN TO SIGN:

I, _____ understand that feeding wildlife creates health problems for the animals and may create danger for humans. I agree not to feed the wild life

☐ I care about the environment. I will do my best During my stay I will do my best to, --- Oyes Ono

✱ displaying authority through LOGO

✱ displaying priming through 👀

✱ hand-writing the visitor's name on the message [John]

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Validation ✓	Mental Badge	Reasoning	Loss Language	Scare tactics
freedom, Choice, confirm, agree, apologize for, verify, approve, acknowledge, recognize, certify, justify, do justice to, endorse, support, excuse, okay, reassure, establish, affirm, we recognize the, we understand that, we know that..., reasonable ... that is true, that ... and that is correct	You care, concern, you like to, wish, mind, trust, keep, cherish, tender, guardian, attentive, delicate, considerate, think, thorough, accurate, making sure, thorough, effort, attention, handle with care, protection, help, worry about	because, explain, the reason is that, sensible, reasonable, interpret, excuse, explanatory, resolve, alibi, background, situation, picture, understand, apologize, assume, self-explaining	shortage, loss, fight, want, insufficient, stand to lose..., lack of, rarity, rareness, need, risk to lose..., failure, exit, harm, absence, sacrifice, cost, waste, decline, expense	harm, danger, ignore, make sure, threat to, cause problems to, likely to be harmed, likely to be damaged, the possibility of something bad is going to happen

Validation:
- We appreciate / It may be inconvenient, but it is very important.
- We understand that is true but ...
- Please choose to ...
- You may want to ...
- ..but you are free to (accept or refuse) ...
- You can't do everything but you could do your bit really really

Mental Badge:
- We appreciate your worry about (the climate) — we worry about that too. Thank you for your effort to keep (something) in good condition.
- ... we worry about that too.
- Thank you for making sure that ...
- Thanks — You are clearly someone who cares about (the climate)
- We assume that you care as much as the climate ...

Reasoning:
- We ask this because ...
- The reason for that is ...

Loss Language:
- The fine for this behaviour is £, although the cost to future generations of people and animals is much higher.

Scare tactics:
- If we can't get people to stay on the trails, we'll have to close the area. So if you don't want to see that happen, make sure no one in your party goes off trail.

Appendix 18

The 'Triggers for Change' logotype symbolizes the systemic, long-term change in human behaviour the webtool aims to generate.

triggers ™
for change