EXPERIMENTAL EVIDENCE OF THE INFLUENCE OF BEHAVIOURAL POLICIES ON TOURIST SUSTAINABILITY

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Abstract

Tourism is an industry that has demonstrated a high potential to generate human well-being in many countries and regions of the planet. However, this potential is conditioned by the objective of sustainability, which implies the compatibility of environmental, social and economic aspects. To achieve the goal of sustainability it is necessary to modify the behaviour of tourists as consumers. This paper presents the central ideas revolving around the decisions of tourists in the use of natural resources and the impact on the environment. It is noted that tourism, as a hedonistic industry, does not present enough incentives for tourists to perform environmentally responsible behaviour. For this reason, it is necessary to act from an integrated model of tourist decision, in which economic instruments are combined with the contextual factors conditioning the decision making of tourists. Results are presented on an experiment on the influence of behavioural policies on decisions on the reuse of towels and linen in tourist accommodation establishments. The evidence provided allows us to conclude that environmental policy instruments can be complemented with instruments that affect the context in decision-making, such as information and social norms, in order to modify the behaviour of tourists towards socially and environmentally more responsible decisions.

Keywords: Consumer behaviour, Gap of attitudes and actions, Emotions, Information, Sustainable tourism.
1. Introduction

Tourists make consumption decisions at different points in a process that covers from the expectation of making a trip, the booking process, the encounter with the destination, and the memories of the experience lived (Gnoth, 1997; Aho, 2001; Gretzel et al., 2006). In all these phases of the tourist consumption process, environmental impacts of varying degrees can be observed, caused by the decisions of the tourists' choice. The path towards a sustainable tourism economy entails the formulation of policies that induce tourists to make the most environmentally sustainable decisions at each stage of the tourism process, in order to achieve a minimization of environmental impacts consistent with a balance with environmental parameters.

There is no doubt that tourists seek the goal of satisfaction and happiness obtained with the decisions involved in the trip, but this individual goal must be compatible with the overall goal of sustainability (Becken, 2007; Cohen and Higham, 2011; Gössling et al., 2012; Gössling, 2015). For example, tourism contributes 5% of global CO2 emissions, and it is estimated that between 5.2% and 12.5% of anthropogenic CO2 emissions are due to tourism (Gössling, 2015; Scott, et al. 2016). It is therefore an industry that still has a long way to reduce the impact it is having on climate change, and this can only be achieved through the change of consumption models and decision processes.

The design of environmental sustainability policies must take into account the possible reactions of tourists. The use of models of rational behavior can lead to biased estimates when compared with the real behavior in tourist markets. In turn, intervention mechanisms based on the use of incentives, such as environmental taxes (Sheng and Tsui, 2009; Palmer and Riera 2003; Gooroochurn and Milner, 2005; Gössling et al., 2007), may not be as effective when other aspects that influence the behavior of tourists, such as emotions or social norms intervene (Gnoth, 1997; King, 2002; Gretzel et al., 2006).

Therefore, taking into account the rational and emotional nature in which the context of consumer decision-making unfolds, consideration is needed of a more complete model of the factors that influence the final results of tourism choices (Lerner and Keltner, 2000; Barsky and Nash, 2002, Antimova, Nawijn and Peeters, 2012). Both the emotions, and the factors that influence the cognitive capacity of the agents when making their decisions, can condition the sustainable behaviors of the tourists, explaining the divergences observed between the intentions or attitudes -rational- and the observed behaviors that generate a greater environmental impact than expected (Hibbert et al., 2013; Hassan et al., 2016).

For example, tourists may have a high environmental awareness in saving water, and develop saving behavior in their habitual residences, but behave as more wasteful consumers in the places of destination (Miller et al., 2015). This divergence between the behavior at source and destination in terms of environmental aspects has been suggested by the results found in Juvan et al. (2016), Higham et al. (2016), and Doran et al. (2017), among others. In a way, the gap between the attitudes and behaviors observed tends to be enhanced in hedonistic contexts such as tourism, in which satisfaction and pleasure prevail outside of habitual residence, as a mechanism of physical and mental recovery away from everyday activities. In this context, tourists are tempted to indulge in environmentally wasteful behaviors that they would not carry out in their place of origin (Higham and Cohen, 2011). The implementation of policies that correct this type of behavioral lag is one of the most important challenges presented by the objective of tourism sustainability.
Unsustainable tourism behaviors are evident in the use of water as a resource. The scarcity of water in local tourism environments is one of the most relevant impacts that are coming for global climate change (Vörösmarty et al. 2000, Scott et al. 2012, Gosling and Arnell, 2016). In addition, water is a resource widely used in the tourism industry, for which efficient use can lead to the reduction of economic and energy costs. The efforts in the reduction of water in tourism have been directed to the efficient use in the production of food services, irrigation, and rooms. For example, these efforts have led many hotels and lodging establishments to implement measures to convince tourists of the convenience of reusing towels and bedding in the rooms (Baca Motes et al., 2013; Dolnicar et al. 2016, Goldstein et al. 2008, 2011, Mair and Bergin-Seers 2010, Shang et al., 2010). Many hotels change these items once a day during the tourist's stay. Undoubtedly, reducing the use of towels and bedding for at least an additional day can reduce laundry and energy costs incurred in the management of household goods by half. These are important cost reductions that imply lower environmental impacts and a more sustainable behavior by the tourism industry, without implying a significant reduction in the quality of the service.

This paper analyzes the determinants of the sustainable behavior of tourists in aspects related to decisions that contribute to CO2 emissions and water consumption during the tourism experience. Results of an experiment related to decisions on the choice about water and energy consumption are presented that focuses on reusing towels and bedding in accommodation establishments. The results reveal that it is possible to influence the behavior of tourists towards the adoption of more sustainable choice decisions, acting on the variables that influence the context of choice, such as information, emotional state and social norms.

2. Environmental Behavior and Tourist Sustainability

The sustainability of the tourism industry involves a balanced management between environmental, social and economic aspects (Butler, 1999, Sharpley, 2000, Jamal, 2014). Tourism is an industry that generates broad economic well-being for societies, but at the same time it has environmental and social impacts that must be considered if this wellbeing is not endangered in the medium and long term (Budeanu, 2007; , 2012). The vision of sustainability is a dynamic vision of the evolution of tourism, in which the aim is to ensure that the tourist destination is able to provide well-being for future generations without undermining their ability to generate wealth. For this, it is necessary to act in the present so that the behavior of tourists is compatible with the preservation of natural resources.

The goal of the behavioral change of tourists requires more than the formulation of environmental sustainability criteria at all levels of production and services (Hedlund, 2011, Tuan, 2017), since a major change in the system of the human behavior, starting from values, culture and incentives to make decisions. Mihalic (2016) argues that it is also necessary to work for a triple A of sustainable tourism, that is to say, awareness, the establishment of a project agenda, and the final action or execution of these projects, in what has has come to be called responsible sustainable tourism (Hall, 2013, Chong, 2013). Therefore, at the center of this responsibility for sustainability is the tourist consumer taking their usual decisions, both at origin and destination, which must be environmentally aware so that they act responsibly and sustainably.

In another order, it is clear that the care of the environment and the objective of sustainability are principles that are in the interest of human well-being in all contexts -local, regional and
global-, and that can only be achieved through the appropriate modification of production and consumption processes, including those carried out in the tourism context (Waligo et al., 2013; Aall et al., 2015; Vu et al., 2016). If all the external effects between consumers and producers were properly contemplated in the decision-making process, it is evident that the solution would be integrated consumption and production guidelines with the objective of sustainability. However, the tourist development is far from the goal of sustainability, as there are still unsustainable environmental impacts and undesirable environmental behaviors from the social point of view.

The behavior of the tourist consumer does not normally conform to the predictions drawn by the rational consumer economic theory, which makes its decisions based on the optimization of an objective function of satisfaction or utility given income and time restrictions (Sirakaya and Woodside, 2005; Cohen et al., 2014). The choice of tourism products and services, as well as the decisions taken both at origin and at destination, are presented according to the traditional formulation, guided by the rational search for maximum individual satisfaction, based on a calculation of costs and benefits that leads to the optimal choice or decision (Mair and Bergin-Seers, 2010). In this model, the choices of tourists' behavior can be improved by producing more satisfaction from the provision of more information, better products and services, and more choice options. However, it is notorious that tourists frequently deviate from this model of rational behavior (Dann, 1981; MacCannell, 2013), which is based on the evaluation of the costs and benefits of all possible alternatives.

One of the most recurrent evidences of the deviation of the rational behavior of tourists as consumers is observed in the dissonance between attitudes towards the environment and real behaviors once they reach the tourist destination (Cohen et al., 2013; Imran, et al., 2014; Lee et al., 2014; Hall, 2016). Thus, the so-called "green" values such as recognizing the need for recycling, the use of renewable energies, or the consumption of sustainable products do not translate into pro-environmental purchasing choices of the options presented in the tourism market consisting of use of efficient means of transport, savings in the use of energy and water, and the choice of sustainable consumption options. This represents a challenge from the point of view of achieving the goal of tourism sustainability, because without changing the behavior of tourists, it is not possible to move towards a society and an economy more consistent with the restrictions imposed by sustainability.

On the other hand, there have been significant gaps between the actions taken by consumers and tourists on the one hand, knowledge, values, attitudes and environmental intentions on the other (Juvan & Dolnicar, 2014, Karlsson and Dolnicar, 2016; Juvan et al., 2017). Thus, tourists can have knowledge, value, and present favorable attitudes and intentions towards environmental behaviors, such as minimizing water consumption during their stay in a lodging complex, but behaving in a manner totally contrary to this objective. Various explanations have been adduced for this divergence, such as the theory of planned behavior, the theory of attribution, the theory of value-belief-norm, and the theory of cognitive dissonance.

The theory of planned behavior is an extension of the theory of reasoned action, and postulates that attitudes, social norms and the perception of social controls of individual behavior affect the intentions of the behavior of individuals in their consumption decisions (Ajzen, 1985; Chen and Tung, 2014). The theory of attribution holds that people perceive two main causes of their behavior, which interact with each other to explain the decisions taken: one internal centered on the person, and the other external, centered on the social conditioning factors. When the causes of decisions are attributed to others, or to the social context,
decisions of an individual type are limited. Therefore, consumers end up not being perceived as causing environmental damage, so they believe that their decisions are not part of the solution (Teng et al., 2015). This is the case when it is argued that environmentally sustainable behaviors can not be carried out because there are no options for this, or because the tourism context invites a group hedonism that limits the effect of individual action on the environmental result.

From the theory of value-belief-norm (Stern, 2000; Han, 2015), environmental behavior is explained by the interaction of the values of individuals in terms of environmental aspects, beliefs about personal responsibility over the environment and personal norms related to the environment. According to this theory, the actions that reduce the impact on the environment are decided by the awareness of the consequences of the actions, as well as by a belief in a responsibility to protect environmental assets that are considered valuable (Gifford and Nilsson, 2014). Therefore, without a value on the environment, an awareness can not be generated, and without this it is difficult to incite the responsibility that leads to making environmentally responsible decisions from the point of view of the individual consumer.

The theory of cognitive dissonance explains the behavior of individuals based on a contradiction between what they consider to be valuable and important, and what they really do based on social determinants (O’Neill and Palmer, 2004); del Bosque and San Martín, 2008). It is an inconsistency of the cognitive aspects (attitudes, beliefs, values, opinions and knowledge) perceived for themselves, for the behavior they must perform and for the social context in which this behavior unfolds. This triple divergence generates a state of anxiety, uncertainty and doubt, which ends up producing dissatisfaction in the choice made. Some authors argue that cognitive dissonance is measurable and that there are varying degrees depending on the degree of divergence between perceptions and actions (Tanford and Montgomery, 2015). However, from the dynamic point of view, it is also possible for individuals to try to reduce cognitive dissonance by adjusting cognitive aspects (e.g., values, beliefs) or by correcting behavioral decisions. An example of cognitive dissonance found in tourism decisions (Hares, Dickinson and Wilkes, 2010) is seen in the huge increase in long-distance travel despite their demonstrated contribution to climate change.

Because of all this, due to the difficulty of persuading tourists to behave in an environmentally sustainable way, it is likely that actions aimed at raising awareness among tourists in the destination about the need to conduct environmentally sustainable behaviors, such as information campaigns, do not produce the expected results (Steg & Vlek, 2009; Dolnicar et al., 2017). On the other hand, the use of financial or economic incentives, such as taxes or charges for environmentally undesirable behaviors, can lead to their legitimization, and encourage greater environmental impact against the sustainability of destinations, reducing intrinsic incentives. towards a purely altruistic behavior.

In a way, the presence or absence of pro-environmental behavior of tourists could be predictable in an irrational context (Ariely, 2008, Tufan et al., 2016), if we look at the results of research conducted in the field of behavioral economics, which argues that although behaviors are not rational from the point of view of personal and / or social interest, there are some conditioning factors of the election process that influence these behaviors decisively, so they are predictively irrational, if we observe how these conditions act at the time of making tourism decisions (Hall, 2013; Cohen et al., 2014). Therefore, from this approach, the behavior of tourists to achieve the goal of sustainability is influenced by cognitive biases and irrational tendencies, which although they produce results different from those expected by a
choice based on rational calculations, can be anticipated and constructed with based on the theoretical and empirical results from the sciences of judgment and human behavior.

Some of these biases in the behavior of tourists, and that product deviations of behavior with respect to the model of rational behavior, emerge from the use of simple rules of decision, heuristics, and mental shortcuts that reduce the effort required to solve the complex problem of optimization of individual satisfaction (Oechssler et al., 2009; Hoppe and Kusterer, 2011; Hsu and Huang, 2012). These are tricks that consumer tourists use to circumvent the need to organize huge amounts of information, accelerating decision-making and solving the problem of choice, particularly in situations characterized by high complexity, many possibilities of choice, risk and uncertainty. Some of the biases that most influence the choice of tourists in their environmental decisions are i) the effect of the status quo, ii) aversion to risk and losses, iii) sunk costs, iv) spatial and temporal discount, and v) the availability bias. Other psychological and social determinants that also have a determining influence on the choice of pro-environmental options are vi) social norms, vii) intrinsic and extrinsic reward, and viii) trust.

3. Experimental Design

The experiment focuses on the introduction of messages to encourage tourists to reuse towels and bedding in accommodation establishments. The messages inform the tourists staying about the reuse option, invoking environmental objectives. It is a normative and persuasive measure aimed at modifying the environmental behavior of tourists.

Four non-hotel establishments were selected, with an average number of 41 rooms, which had not previously undertaken any persuasive information measure in the rooms. The total number of rooms was 164. The establishments were chosen for their homogeneity in terms of the policy of changing the towels and sheets. For the experiment, the agreement was taken that the towels as they were changed daily, and the sheets every third day, if the client did not expressly request their reuse through the channels determined in the experiment. For each establishment, the persuasive messages were randomly distributed in the rooms, and the behaviors of the tourists housed were observed regarding the reuse or not of the towels and bedding.

Two alternative messages were distributed according to the amount of information provided on the environmental consequences of the reuse of towels and sheets. For the group with the least information, the message was as follows:

Dear Customer,
In accordance with our commitment to take care of the environment and reduce the use of the precious water resource, we offer the following options during your stay:
1) Place your towel in the bath / shower for daily washing if you want it to be changed (normal service).
2) Hang your towels on the towel rack if you decide to let them dry for reuse. The sheets in this establishment are changed every 3 days. If you want to change your bedding, place this sign on your bed. In [accommodation establishment] we support the sustainable interaction with nature and the responsible use of water, which is a resource of high value, increasingly scarce on our planet.
Most of the guests staying in this establishment have decided to re-use the towels, at least for a few days, during their stay. The same has happened with the bedding. The cost savings that these measures will mean for [accommodation establishment] will go to a non-governmental environmental organization (NGO) dedicated to the implementation of measures for water saving in the world, as well as to improve their supply in areas of acute shortage.

For the group of more information, the following informative paragraph was added:

*The replacement of towels and bedding has important impacts on the environment and water consumption. On the one hand, the use of detergents through industrial washing generates discharges of chemical pollutants into the environment, which can end up damaging groundwater aquifers, and affecting human health through water pollution and the intake of agricultural products in contaminated soil. On the other hand, industrial washing also means an energy consumption that contributes to the CO2 emissions that cause climate change. In addition, the use of water contributes to reduce the availability of this valuable resource. For example, for every day that your towels and bedding are reused you save a total of 30 liters of water. Thank you very much for SUPPORTING THE CARE OF THE ENVIRONMENT.*

On the other hand, because some clients may not pay too much attention to the labels with information incorporated in the rooms, the two sub-samples, with more or less information, were distributed in two other sub-samples depending on whether they were informed Customers at reception about the presence of labels or not.

Following the recommendations of the literature, the message was accompanied by the hotel logo (Shang et al., 2010), and remembered that the majority of tourists staying in the hotel agreed to the reuse of towels and sheets (Goldstein et al., 2008; van der Linden, 2014). Likewise, a rule of reciprocity is established, in the sense that the establishment dedicates the water and energy savings obtained with the change of behavior to a charity organization, waiting for the same response from the guests (Goldstein et al., 2011).

The message was placed in three languages (German, English and Spanish) in a visible and distinguished place in the room, as well as in the bathroom, in a way that generated the immediate attention of the guests. Clear information on what to do to reuse towels and sheets is included in the text of the message. Previous work was done with group meetings, in which two groups of four tourists (English and German) participated, which allowed to prove that the messages were perfectly understood by the potential clients of the rooms.

Over a period of three months, observations were made of the clients housed in the rooms in which the two message types were randomly incorporated according to the amount of information. The observation consisted of the socio-economic data of the tourists housed (age, gender, nationality, stay), obtained from the registration form at the entrance of the establishment, as well as the decision made regarding the reuse of the equipment during the stay in the room, and the time they were reused. Clients who stayed overnight only in the establishment were excluded from the samples obtained. In total, 1,968 observations were received from tourists, of whom 987 corresponded to the group with the least information and 981 to the group with the most information.

The data on the reuse of the belongings were collected by the cleaning staff. The staff was informed about the purpose of the experiment and trained in data collection, that is, when to register the replaced towels. This involved the change of towels and bed linen during the cleaning service of the room. The data had to be entered into a daily data matrix of the rooms developed specifically for this purpose, and distributed daily to the staff.
4. Results

The four subsamples used in the experimental treatment did not present statistically significant differences in terms of the socioeconomic variables of age, gender, repetition of visits and nationalities, which are defined in Table 1, and which are used to model the decision to reuse or not towels and bedding, whose results are presented in Table 2.

The dependent variable for modeling indicates the degree or reuse index chosen by the client. That is, it is a variable constructed as the quotient between the number of days (or times) that the client has decided to opt for reuse and the number of total days of his stay in which he has been able to make the replacement. The variable takes a value between 0 and 1, being 0 when the client does not choose in any case for reuse, and 1 when during all the days of his stay in which change of towels and/or bedding is made, he decides opt for reuse. Therefore, for the value equal to 1 of the dependent variable, the client has not changed these fixtures during their entire stay, so the persuasion measures for saving water have had their greatest impact.

As can be seen in Table 3, the reuse rate is significantly higher for individuals who have received information at reception, both in the decision to reuse towels and bedding, given that the reception variable takes a positive value. However, the variable information is only significant for the reuse of bedding. Therefore, the incorporation of more information on the labels of the rooms only has a positive effect on the reuse for the case of bedding, and not for towels. This result is compensated by the provision of information at the reception, which has a greater impact on reuse than that provided on the room labels.

The reuse rate is lower for rooms that house older individuals in the case of towel reuse, given that the age variable is negative and significant at 95% for this model. For the model of the reuse of bedding, the age of the most adult individuals, although it has a negative sign, is not significant. Therefore, it is expected that rooms with older individuals have a lower tendency to reuse towels, although in the bedding the age of the individuals in the room is not a conditioning variable in the decision to reuse.

On the other hand, individuals who spend more time in the housing complex also have a higher rate of reuse of towels and bedding, since the variable stay is significant at 95%. However, the quadratic form of this variable is only significant for the reuse rate of the towels. That is, the reuse of towels increases with the stay, but tends to decrease for longer stays. This eventual reduction of the reuse with the duration of the stay does not occur with the bedding, since the quadratic variable is not significant for this model.

As for customers who have previously been in the housing complex, it is noted that they tend to reuse towels more, but not bedding. Thus, the repetition variable is positive and significant at 95% only for the reuse model of the towels, so the greater reuse for loyal customers is not observed for decisions on bedding.

The rate of use also varies significantly among clients of different nationalities, which may be motivated by cultural reasons, tourist habits or environmental sensitivity. Thus, it is observed that the rate of reuse is higher for Scandinavian tourists, both in the case of towels and bedding, and less for German and Spanish tourists, but only for towels. Spanish tourists tend, however, to present a higher rate of use of bedding. In the case of English tourists, no significant difference is observed with respect to the average of tourists in the reuse or towels or bedding.
Table 3 presents the reuse ratio of towels and bedding for the four sample treatments considered in this experiment. As can be appreciated, the rate or rate of reuse is generally higher for the case of towels than for bedding. For the scenario of low information in the room and absence of information instructions at reception, the rate of use of towels is 33.5% and that of bed linen of 12.1%. Undoubtedly, this result indicates that tourists are more inclined to reuse towels than bedding, perhaps motivated by the differences involved in the reuse of both types of appliances.

The provision of information at the reception presents a high impact on the reuse of towels and bedding. This result indicates that the impact of the labeling measure on the rooms can be reinforced with a greater persuasion of the customers towards the reuse behavior of the appliances. The impact of the information incorporated in the rooms is, however, much more moderate than the impact of the information in the reception, being practically irrelevant for the induction of a greater reuse of the towels.

5. Conclusions

The tourism industry presents in its historical evolution the inexcusable challenge of sustainability, which implies its development based on the principle of being able to generate well-being in the medium and long term with the available human and natural resources, both in the present and in the future. This objective can only be achieved if natural resources are managed in such a way that they are conserved in their state of maximum environmental quality, optimizing their use to obtain the best performance of them, thus avoiding their degradation or elimination.

The observed evolution of tourism in the context of its contribution to climate change leads to serious doubts about its sustainability with the current status quo of technological uses in the production and use of energy, both locally and globally, if not adopted as before measures that favor a transition to production and consumption processes with clean and renewable energies.

In this context of a need for change in the systems of production and tourist consumption, the tourist as a consumer has an essential role in the adoption of more responsible and sustainable consumption decisions, which lead the tourist organizations to adopt the changes that the demand demands from the point of view of environmental preferences. At this point, it is therefore very important to know how the tourist consumer behaves, as a central element of the tourism system, in the adoption of decisions that have an environmental impact, so as to draw on this knowledge, design the appropriate policy measures to accelerate the transition towards a more sustainable tourism economy.

However, given that tourism is an industry by definition characterized by the sale of hedonistic sensations, and where the pursuit of pleasure is the main objective of consumption, it is proving to be a huge task to instill in the tourists behavior patterns that imply restrictions in obtaining pleasurable experiences that do not entail environmentally negative consequences, observing as a result a generalized prevalence of excessively neglected behaviors of the saving of environmental resources, such as water or energy, in tourism processes.
In a certain way, the tourist seems to disconnect from his modus operandi when he considers and travels to a place different from his habitual residence, and tends to carry out dissonant behaviors with his attitudes or environmental values in the destination. The redirection of these behaviors towards environmentally more responsible and sustainable decisions is a task that requires the design of measures that encourage tourists to make more coherent decisions with their values and attitudes, thus reducing the observed gap with the behaviors carried out.

The formulation of effective and efficient measures to modify the behavior of tourists towards more sustainable decisions must take into account all aspects that influence decision-making. The conventional model based on the consideration of economic factors such as price must be broadened to take into account other factors such as emotions, social context, awareness and social norms.

In this paper we have presented the results of an experiment that provides evidence about the influence of cognitive and emotional aspects in decisions about the choice of decisions involving water savings in establishments accommodation. The evidence allows us to conclude that tax pricing policies can be as relevant as social awareness and information provision policies, as well as the possible induction of emotional states prone to responsible decision-making with the environment and sustainability.

References


Table 1. Manipulation check results. Emotions triggered by each experimental treatment.

<table>
<thead>
<tr>
<th>Experimental treatment</th>
<th>Sad</th>
<th>Empathy</th>
<th>Anger</th>
<th>Happy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>1,1</td>
<td>1,3</td>
<td>1,4</td>
<td>1,3</td>
</tr>
<tr>
<td>Sad</td>
<td>4,3</td>
<td>1,4</td>
<td>1,3</td>
<td>1,2</td>
</tr>
<tr>
<td>Empathy</td>
<td>1,2</td>
<td>4,8</td>
<td>1,2</td>
<td>1,1</td>
</tr>
<tr>
<td>Anger</td>
<td>1,2</td>
<td>1,4</td>
<td>4,7</td>
<td>1,2</td>
</tr>
<tr>
<td>Happy</td>
<td>1,3</td>
<td>1,5</td>
<td>1,1</td>
<td>4,6</td>
</tr>
</tbody>
</table>
Table 2. Porcentual variation of CO2 emissions.

<table>
<thead>
<tr>
<th>Experimental Treatment</th>
<th>% variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax (5%)</td>
<td>-12.7</td>
</tr>
<tr>
<td>Tax (20%)</td>
<td>-49</td>
</tr>
<tr>
<td>Information CO2</td>
<td>-18.18</td>
</tr>
<tr>
<td>Time Pressure</td>
<td>30.9</td>
</tr>
<tr>
<td>Sad</td>
<td>20</td>
</tr>
<tr>
<td>Empathy</td>
<td>-25.45</td>
</tr>
<tr>
<td>Anger</td>
<td>-47.27</td>
</tr>
<tr>
<td>Happy</td>
<td>41.81</td>
</tr>
</tbody>
</table>
Table 1. Definition of explanatory covariates in appliances reused.

<table>
<thead>
<tr>
<th>Covariates</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>Takes value 1 if guest received stickers with information and 0 otherwise.</td>
</tr>
<tr>
<td>Reception</td>
<td>Takes value 1 if guest received information at reception and 0 otherwise.</td>
</tr>
<tr>
<td>Age</td>
<td>Age of the oldest guest in the room.</td>
</tr>
<tr>
<td>Stay</td>
<td>Length of stay in the resort (in days).</td>
</tr>
<tr>
<td>Repeat</td>
<td>Number of occasions in which the guest have stayed in the resort before.</td>
</tr>
<tr>
<td>Scandinavian</td>
<td>Takes value 1 if guest is Scandinavian and 0 otherwise.</td>
</tr>
<tr>
<td>German</td>
<td>Takes value 1 if guest is German and 0 otherwise.</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Takes value 1 if guest is from UK and 0 otherwise.</td>
</tr>
<tr>
<td>Spanish</td>
<td>Takes value 1 if guest is Spanish and 0 otherwise.</td>
</tr>
</tbody>
</table>
Table 2. Regression model for the Reusing behaviour index.

<table>
<thead>
<tr>
<th>Covariates</th>
<th>Towels Parameter</th>
<th>Towels Standard Error</th>
<th>Bed Linen Parameter</th>
<th>Bed Linen Standard Error</th>
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<tbody>
<tr>
<td>Constant</td>
<td>1,672*</td>
<td>0,291</td>
<td>1,031*</td>
<td>0,198</td>
</tr>
<tr>
<td>Information</td>
<td>0,172</td>
<td>0,141</td>
<td>0,381*</td>
<td>0,058</td>
</tr>
<tr>
<td>Reception</td>
<td>0,305*</td>
<td>0,132</td>
<td>0,611*</td>
<td>0,135</td>
</tr>
<tr>
<td>Age</td>
<td>-0,074*</td>
<td>0,027</td>
<td>-0,054</td>
<td>0,047</td>
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<tr>
<td>Distance</td>
<td>0,065*</td>
<td>0,021</td>
<td>0,048*</td>
<td>0,022</td>
</tr>
<tr>
<td>Distance²</td>
<td>-0,003*</td>
<td>0,001</td>
<td>-0,069</td>
<td>0,052</td>
</tr>
<tr>
<td>Repetition</td>
<td>0,138*</td>
<td>0,055</td>
<td>0,265</td>
<td>0,139</td>
</tr>
<tr>
<td>Scandinavian</td>
<td>0,472*</td>
<td>0,128</td>
<td>0,361*</td>
<td>0,075</td>
</tr>
<tr>
<td>German</td>
<td>-0,390*</td>
<td>0,153</td>
<td>0,252</td>
<td>0,180</td>
</tr>
<tr>
<td>Inglés</td>
<td>-0,141</td>
<td>0,133</td>
<td>0,121</td>
<td>0,160</td>
</tr>
<tr>
<td>Spanish</td>
<td>-0,442*</td>
<td>0,172</td>
<td>0,283*</td>
<td>0,020</td>
</tr>
<tr>
<td>R²</td>
<td>0,58</td>
<td>0,51</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Statistically significant at 95%.
Table 3. Reusing Behavir Index (%) for each experimental treatment.

<table>
<thead>
<tr>
<th></th>
<th>Reception=0</th>
<th>Reception=1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Towels</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information=0</td>
<td>33.5</td>
<td>51.2</td>
</tr>
<tr>
<td>Information=1</td>
<td>38.7</td>
<td>52.4</td>
</tr>
<tr>
<td><strong>Bed Linen</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information=0</td>
<td>12.1</td>
<td>28.9</td>
</tr>
<tr>
<td>Information=1</td>
<td>22.8</td>
<td>35.5</td>
</tr>
</tbody>
</table>