The impact of hotel sustainability practices on tourist intentions to book hotel rooms

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Abstract

Purpose of the paper: This paper aims to understand whether a hotel's commitment to sustainability practices is a factor that influences a tourist's intention to book a hotel room.

Methodology: For the purposes of the study a between-subjects experimental approach was applied to a sample of 451 Italians. A t-test and a multiple regression analysis were then adopted to measure whether sustainability affects customers' intentions to book.

Findings: Findings show that, ceteris paribus, customers are more willing to book rooms at hotels committed to sustainability practices than at those that are not.

Research limits: The research is framed to capture how consumers react to sustainability-driven practices at hotels and specifically in the upscale hotel market. Consequently, it should be replicated across other hotel categories.

Practical implications: Findings suggest that hotel marketers should undertake sustainability practices to inspire consumer intentions to make hotel reservations, thus sustaining hotel performance and local community wellbeing.

Originality of the paper: This study contributes to deepening the scientific debate on consumer interest in making reservations that favor hotels that undertake sustainable actions and practices. This research strand has thus far attracted limited attention in the existing literature if compared to similar studies primarily devoted to analyzing the environmental dimension of hotel sustainability and its impact on tourist choices.

Key words: sustainability practices; intention to book; hotel firms

1. Introduction

Over the last decade the issue of sustainability has attracted increasing attention in tourism and hospitality businesses, mostly due to the pressure exerted by regulators (Meier and Cassar, 2018), stakeholders (Franco et al., 2020; Guix et al., 2019; Martini and Buffà, 2015) and consumers (Del Chiappa et al., 2016), but also thanks to the sense of responsibility of business managers (Ciasullo et al., 2019; Theodoulidis et al., 2017). The tourism industry, indeed, is among the most significant when it comes to producing negative economic, environmental, and socio-cultural externalities (Font and McCabe, 2017; Legrand et al., 2016), and tourism companies are increasingly challenged by sustainability issues (Del Vecchio et al., 2018; Warren et al., 2018).
Sustainability in tourism has been extensively studied from different perspectives (Font and Lynes, 2018). Management studies have focused on the ways tourism companies implement sustainability practices (Buffa et al., 2019) as well as when they create value for firms (Presenza et al., 2019), how such firms account for it (Guix et al., 2017), and how individuals (consumers, residents, and visitors) perceive the impacts generated by tourism activities (Del Chiappa et al., 2019; Del Chiappa et al., 2018; Malone et al., 2014). Compared to other sectors, tourism is probably the one where the debate around sustainability issues has attracted the most attention (Del Chiappa and Lorenzo-Romero, 2014; Goffi et al., 2019; Goffi et al., 2018; Gössling and Peeters, 2015; Guix et al., 2019; Presenza et al., 2019; Warren et al., 2018). Several papers have analyzed the relationship between a hotel's commitment to sustainability practices and tourist perceptions (e.g., Berezan et al., 2013; Chen, 2015; Prud’homme and Raymond, 2013), in addition to their degree of satisfaction and loyalty (e.g., Moise et al., 2018). This research has argued that customers are increasingly sensitive to sustainability and are willing to attribute value to hotel sustainability and pay a premium price for it (e.g., Chang et al., 2015; Eslaminosratabadi, 2014). However, existing studies have mainly analyzed the role of environmental sustainability, with less attention given to the social and economic dimensions. This has been the case despite the fact that, in more recent years, tourism and hospitality marketers have also started to put more effort into undertaking activities that make their businesses more sustainable from a socio-cultural point of view (dos Santos et al., 2017). As a matter of fact, several initiatives have been carried out to support local communities and contribute to their social growth and wellbeing by adopting actions that seek, for example, to guarantee fair working conditions, spread gender equality principles, adopt HR policies that support work-family balance, reduce poverty and hunger, sustain the quality of education, use local and sustainable products, provide opportunities for guests or the business itself to donate to or volunteer with the local community, and contribute to preserving local heritage, identity and authenticity traits (UNTWO, 2013). Nonetheless, there is still limited research seeking to investigate whether hotel commitment to sustainability practices actually helps intercept consumers preferences by making them more likely to book; there is consequently considerable need for further theoretical and empirical studies in this area (Dempsey et al., 2011; Pakdil and Kurtulmuşoğlu, 2017; Vallance et al., 2011). This need is particularly relevant in the specific context of Italy where, to the best of our knowledge, no academic studies have been carried out so far on this research topic. Furthermore, most of the existing studies in current national and international literature tend to adopt a traditional “survey-based” approach with less attention given to experiments. This study was therefore conducted to contribute to filling this gap by answering the following research question: does a hotel’s commitment to sustainability practices shape the intentions of tourists to book a hotel room?

To achieve this aim, a between-subjects experiment was conducted online on a heterogeneous sample of 451 Italians. Subsequently, a t-test and a regression analysis were run for the purposes of this study. The paper is
structured as follows: in the next section it provides a theoretical background explaining the importance of the issue of sustainability in the tourism industry and tourist reactions to it; then we explain the methodology used and its relevance for the purpose of the paper; we present our findings; and finally we provide a discussion and conclusion, highlighting the relevance of our findings both for theory and practice.

2. Theoretical background

2.1 Sustainability in the hotel sector

Sustainability is an increasingly widespread concern in management environments, and its relevance is increasing, both from a theoretical perspective and in practice (Annunziata et al., 2019; Eccles et al., 2014; Eccles and Klimenko, 2019). It can be thought of as a firm strategy triggered by a voluntary demonstration of inclusion in a social context (Van Marrewijk and Werre, 2003) or by norms and regulations that push firms to implement sustainable activities (Lubin and Esty, 2012; Meier and Cassar, 2018). In both cases sustainability constitutes an approach for companies to create fruitful relationships with their stakeholders and, simultaneously, create wealth for the company itself (Barnett and Salomon, 2012; Eccles et al., 2014; Freeman et al., 2004; McWilliams and Siegel, 2001). Among other factors, it may be highly beneficial if it aims to satisfy customers who are sensitive to sustainability practices and intentions (Sheth et al., 2011). This is particularly true in the tourism and hospitality sector, an industry highly affected by sustainability (UNWTO, 2018), where tourists are greatly influenced by a hotel’s commitment to sustainability practices (Chen, 2015) that aim to achieve so-called sustainable tourism. The World Tourism Organization (WTO) defines sustainable tourism as “tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities”. In order to achieve this goal, all players within the industry need to implement policies and practices in favor of sustainability. In particular, the hotel industry is among the most sensitive sectors that should incorporate sustainability goals, given how common they are all over the world. This argumentation has a practical impact on a hotel’s day-to-day implementation of sustainability activities, both at independent hotels and at hotels belonging to international chains (Buffa et al., 2019; Franco et al., 2020; Garay and Font, 2012). There are several forms of sustainability initiatives that hotels can implement. General sustainability activities regard, for example, the promotion of fair trade, respect for biodiversity, environmental protection, local heritage preservation, the use of green products, support for local communities, working conditions, diversity management, and philanthropy (Line et al., 2016). However, it is important to remember that sustainability may take different forms depending on whether it refers to the economic, environmental or social dimension (Cappa et al., 2016; Papa et al., 2017). Previous studies have mostly focused their attention on environmental concerns, while the social
and economic dimensions have received less attention. In the tourism industry, the embeddedness of sustainability practices in a business relates to the human capital within the organization, the cultural capital within and outside the organization, and the involvement of the local community (Mihalič et al., 2012). Although previous studies recognized the relevance of these practices for the industry, the literature has rarely investigated whether the involvement of a hotel in sustainability practices, particularly the social kind, is also rewarded by the market.

2.2 Hotel sustainability and tourist behavior

Sustainability practices can improve a company’s reputation and its relationship with stakeholders (Franco et al., 2020), particularly customers (Lii and Lee, 2012). Indeed, sustainability programs allow companies to display their value systems to customers, showing true commitment by positively influencing the society to which they belong. In turn, this effect also generates positive attitudes among customer behaviors. As a matter of fact, sustainability programs can be used as a tool to stimulate affective evaluations of a firm (Bhattacharya et al., 1995). In other words, customers’ positive attitudes towards the company can be a potential benefit for the firm if they trigger customer willingness to buy and pay a premium price. Previous research found that sustainability may positively impact customers’ willingness to pay (Vecchio and Annunziata, 2015). In addition, the implementation of sustainability practices may improve intentions to purchase by differentiating products and motivating customers (Schäufele and Hamm, 2017; Silva et al., 2017).

In the hotel context, sustainability has been found to influence customer satisfaction, even though customer responses to sustainability stimuli may be different with respect to hotel characteristics (Prud’homme and Raymond, 2013). A recent study (Ponnapureddy et al., 2017) found that German tourists are willing to book rooms at hotels implementing sustainability activities if such activities are communicated in a trust inspiring-way. Moreover, in their research conducted in Mexico, Berezan, Raab, Yoo and Love (2013) found that hotels’ commitment to sustainability also influences guest intentions to return.

The aforementioned considerations help scholars recognize that hotel sustainability is a factor that can trigger positive consumer responses and contribute to creating and sustaining a hotel’s positioning and competitive advantage. Currently, existing hotel-related studies have concentrated mainly on investigating the influence of corporate environmental sustainability (e.g., Baratta et al., 2016; Baratta et al., 2018; Buffa et al., 2019; Font and Lynes, 2018). However, there is still limited research into understanding whether hotel sustainability may be a determinant of a tourist’s intention to book a hotel room; there are even fewer studies dealing with this research strand in the specific context of Italy. This research gap calls for further studies seeking to understand whether - ceteris paribus - sustainability practices at hotels, particularly those related to the social dimension, may positively shape consumer intentions to reserve at that specific hotel. This study intends to answer this research question by
introducing and empirically testing the following hypothesis:

**Hypothesis 1:** Tourists are more willing to make room reservations at a hotel committed to sustainability practices than at a hotel that is not.

Existing studies show that gender and age differences usually exist in consumer ethics, with female (Bateman and Valentine, 2010) and young consumers normally observed to exhibit higher levels of ethical orientations (Krause and Battenfeld, 2019) in many industries and cultures (Sidani et al., 2009). Despite this, there are also studies that found no or insignificant ethical differences based on age and gender (Sidani et al., 2009). These contradictory findings - and more generally the limited number of studies investigating whether age and gender can exert a significant influence on consumer interest in booking with hotel businesses engaged in sustainability practices - have led us to explore whether these sociodemographic variables are sufficient to differentiate consumer intentions to book with such hotels.

### 3. Data and methods

For the purposes of this study, a between-subjects design experiment was run. This method has been used in previous studies and represents the best methodology for our analysis since it makes it possible to assign the subjects to different conditions (Loftus and Masson, 1994). Each subject is assigned to only one condition, namely, in our case, *scenario A* or *scenario B*.

An online survey was sent via e-mail to a heterogenous sample of 700 Italians provided by an Italian Tourism Association.

Both *scenario A* and *scenario B* included the description of a hotel. Hence, each scenario was assigned to half of the sample (i.e., half of the sample was given *scenario A* and the other half *scenario B*). The hotel presented had a 4-star ranking and was located in the city center of an urban destination. Respondents were asked about the likelihood of booking a standard double room. Each group was first asked to read the assigned *scenario* and then to answer the same questions. Qualtrics - the software used to distribute the surveys - was set to randomize the scenarios provided. In this way we could not decide who was sent one scenario or another.

In order to isolate the effect of sustainability, the two scenarios were identical except for the part describing the sustainability commitment of the hotel. More specifically, *scenario B* provided individuals with the story of a hotel and its main characteristics in terms of price, stars, position and quality - which are considered the main determinants in a room purchase (Kim and Kim, 2004; Kim et al., 2006). *Scenario A* presented the same story, enriched by a couple of sentences describing three different examples of the hotel's commitment to sustainability practices, specifically related to the promotion and preservation of local heritage and traditions, donations and volunteering, and the supply of local and sustainable products (UNWTO, 2017). According to existing studies, the first two practices are socially-related sustainability practices, while the third is socially rooted while being to some extent also related to economic and environmental
sustainability practices (Jones et al., 2014). Once individuals had read the “hotel story” they were invited to report their intention to book the hotel room. For this purpose a list of three items was used to ensure a higher level of reliability in measuring the construct (Bland and Altman, 1997). Respondents provided their answers using a 5-point Likert scale (1= not likely at all, 5= very likely). Data collection was carried out in from January to February 2019 and in total 451 complete questionnaires were obtained (225 for scenario A and 226 for scenario B), thus producing a response rate of 64.42%. Cronbach’s Alpha was calculated on the three items used to measure intention to book so as to check for factor reliability. The figure for Cronbach’s Alpha was reported as 0.902, thus confirming that the factor (i.e. intention to book) was reliable (Cronbach and Furby, 1970). Then the final variable was calculated measuring the arithmetic mean of the three items (Cortina, 1993). In order to assess whether tourist choices differ when the two different scenarios are considered, a $t$-test analysis was calculated. To furtherly validate our analysis, we also ran a robustness check and a $t$-test to assess whether there were statistical differences between the two subsamples in our analysis that might have influenced our findings. Results are presented and discussed in the following section.

4. Findings

Table 1 illustrates the profile of our respondents. Our sample was highly heterogeneous in terms of age, with individuals ranging from 18 to 78 years old and with a mean age of 36.90 years. The majority of respondents were reported to be female (59.7%) and resident in the Center of Italy (61.2%), while 15.3% of respondents resided in the North of Italy and 23.5% in the South.

Tab. 1: Descriptive statistics for the whole sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Minimum value</th>
<th>Maximum value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>36.90</td>
<td>18</td>
<td>78</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>59.7%</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>40.3%</td>
<td></td>
</tr>
<tr>
<td>Origin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North</td>
<td></td>
<td>15.3%</td>
<td></td>
</tr>
<tr>
<td>Center</td>
<td></td>
<td>61.2%</td>
<td></td>
</tr>
<tr>
<td>South</td>
<td></td>
<td>23.5%</td>
<td></td>
</tr>
</tbody>
</table>

Source: our calculations

Before running an analysis of the intention to book, we performed two $t$-test analyses to assess whether the two subsamples were statistically different in terms of age and gender. Indeed, differences between the two subsamples can influence the final result of the analysis. Our findings are reported below. Table 2 and Table 3 show that there are no differences
between the subsamples in terms of age and gender. In particular, although the test showed differences in means between scenario A and B, the p-values are high enough to show that such differences were not significant (age \( p-value = 0.732 \); gender \( p-value = 0.609 \)). Thus, we can conclude that the two subsamples do not show differences as regards the age and gender of the respondents.

**Tab. 2: t-test on the age of respondents**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of respondents</th>
<th>Age</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario A (Sustainable hotel)</td>
<td>225</td>
<td>37.14</td>
<td>0.980</td>
</tr>
<tr>
<td>Scenario B (Non-sustainable hotel)</td>
<td>226</td>
<td>36.65</td>
<td>1.032</td>
</tr>
<tr>
<td>( t )</td>
<td>( p-value )</td>
<td>Mean difference</td>
<td></td>
</tr>
<tr>
<td>-0.343</td>
<td>0.732</td>
<td>-0.488</td>
<td></td>
</tr>
</tbody>
</table>

Source: our calculations

**Tab. 3: t-test on the gender of respondents**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of respondents</th>
<th>Gender</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario A (Sustainable hotel)</td>
<td>225</td>
<td>0.60</td>
<td>0.491</td>
</tr>
<tr>
<td>Scenario B (Non-sustainable hotel)</td>
<td>226</td>
<td>0.62</td>
<td>0.485</td>
</tr>
<tr>
<td>( t )</td>
<td>( p-value )</td>
<td>Mean difference</td>
<td></td>
</tr>
<tr>
<td>-0.511</td>
<td>0.609</td>
<td>-0.024</td>
<td></td>
</tr>
</tbody>
</table>

Source: our calculations

Table 4 shows the results of our statistical analysis. The number of respondents for each group is almost identical. This aspect is in line with our expectations and with the 50% randomization of the two different scenarios sent to the respondents. Notably, the mean value of intention to book is higher in scenario A, i.e. the description of the sustainable hotel, than in scenario B. However, the fact that the two mean values differ with respect to each other is not enough to conclude that respondents in scenario A are more willing to book a hotel room compared to those in scenario B. To test whether the two subsamples significantly differed in terms of intention to book, a \( t \)-test was run. Results show that respondents belonging to the two subgroups differed significantly regarding intention to book (\( p-value=0.000 \)), thus confirming our HP: the intention of consumers to make hotel reservations was significantly higher for hotels that had implemented sustainability practices.

**Tab. 4: Number of respondents per scenario And t-test analysis**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of respondents</th>
<th>Intention to book</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario A (Sustainable hotel)</td>
<td>225</td>
<td>5.13</td>
<td>1.325</td>
</tr>
<tr>
<td>Scenario B (Non-sustainable hotel)</td>
<td>226</td>
<td>4.71</td>
<td>1.402</td>
</tr>
<tr>
<td>( t )</td>
<td>( p-value )</td>
<td>Mean difference</td>
<td></td>
</tr>
<tr>
<td>3.300</td>
<td>0.001</td>
<td>0.425</td>
<td></td>
</tr>
</tbody>
</table>

Source: our calculations
Although the *t*-test analysis evidence is in line with our hypothesis, we decided to conduct a robustness check in order to validate our findings. To do that we ran a multiple regression analysis to assess the effect that belonging to scenario A or scenario B has on the intention to book.

Moreover, we included the age and gender of the respondents as control variables, since they may influence the intention to book. We operationalized the scenario predictor by building a dummy variable that takes a value of 0 for scenario B and 1 for scenario A. The impact of gender was also measured through a dummy variable (0 for males, 1 for females). We ran the multiple regression using the software Stata (release 15). Results of the analysis of the 451 observations are reported in table 5.

Table 5: Robustness check. Multiple regression analysis with 'intention to book' as the dependent variable. *** denotes significance at 1% level. t-values are in parentheses

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario (0 = non-sustainable hotel; 1= sustainable hotel)</td>
<td>0.441*** (3.31)</td>
</tr>
<tr>
<td>Age</td>
<td>0.006 (1.36)</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.071 (-0.51)</td>
</tr>
<tr>
<td>Number of obs.</td>
<td>451</td>
</tr>
<tr>
<td>Prob &gt; F</td>
<td>0.006</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.029</td>
</tr>
</tbody>
</table>

Source: our calculations

Results confirm the *t*-test results. Indeed, the dummy variable that indicates the hotel's commitment to sustainability practices shows that there is a positive shift in the intention to book when the scenario shifts from B (non-sustainable) to A (sustainable), with a significant coefficient (β = 0.441; *p*-value = 0.001). Results also show that age and gender are not significantly influencing consumer intentions to book, meaning that responses depend only on the scenario presented, and therefore on the stated characteristics of the hotel.

5. Discussion and conclusions

The aim of this study was to understand whether a hotel's commitment to sustainability practices has an impact on tourist intentions to reserve a room at that specific hotel rather than at a hotel with a weak commitment to sustainability practices. We tested our hypothesis on a sample of 451 respondents, comparing the intention to book a room at two hotels that were only different from each other in terms of the implementation of sustainability practices. The results of our *t*-test and multiple regression analyses showed that customers are more willing to book a room at a hotel committed to sustainability than at one not committed to such practices. This result confirms our hypothesis for the sample analyzed,
and contributes to the debate on consumer behavior and sustainability in the hotel industry. Previous research demonstrated that tourists are sensitive to a hotel’s commitment to sustainability practices (Berezan et al., 2013; Ponnapureddy et al., 2017; Prud’homme and Raymond, 2013). This aspect is extremely important in a world where customer experience is increasingly central to the decision-making processes of companies (Calza et al., 2019; De Nisco et al., 2015; Forlani and Pencarelli, 2019).

However, other studies mainly focused their attention on the environmental side of sustainability. This paper, in contrast, is among the few attempts to empirically test the effect of involvement on the social side of sustainability as well. In terms of theory, this paper advances understanding of sustainability in the hotel industry by showing that tourists are sensitive to the issue and more likely to make hotel reservations favoring accommodation facilities that invest in sustainability measures. Hence, the study suggests that the involvement of hotels in sustainability practices can be considered a factor driving customer choices (Yavas and Babakus, 2005). This evidence appears to be in line with new market trends that show increasing tourist interest in transformative experiences that go beyond material aspects and help to build and sustain their self-growth (Pung et al., 2020; Reisinger, 2013; Sánchez-Fernández et al., 2020).

These results also present a number of practical implications that provide useful suggestions for tourism companies, whose contribution to sustainability practices is increasingly important when tackling sustainability goals (Del Chiappa and Fotiadis, 2019). Hotel managers who decide to improve the sustainability impact of their companies should be aware of the fact that the market is willing to reward this behavior with a stronger intention to reserve at their hotel. Consequently, our findings suggest hotel managers should invest in activities that, for example, involve the local community, promote and preserve local heritage and traditions, and rely on local and sustainable supply chains, as ways to attract consumer preferences. Once these activities have been implemented, significant efforts should be made to effectively communicate these investments to the market through optimal promotional operations.

Although this study helps to fill a gap in the existing literature and proposes some implications for practitioners, limitations still remain. First, despite the fact the sample included respondents residing in every region of Italy, it is geographically biased due to the high concentration of respondents in central Italy. Moreover, data was collected in one country (Italy) rather than multiple countries. Second, even though the sample is quite heterogeneous in terms of age and gender, the empirical analysis does not provide strong external validity. In fact, we cannot guarantee that the demographic characteristics of the sample are consistent with those of people who want to book a 4-star hotel in the city center (such information is not publicly available, to the best of the authors’ knowledge). This calls for future studies to be carried out to repeat the experiment in other geographical contexts both within and outside Italy in order to make cross-comparisons that can ascertain whether cultural background might exert a moderating effect on hotel sustainability and consumer intentions to book. Third, although we controlled for age and gender, the study did
not test the moderating effect of any sociodemographic, travel-related variables (travel party, country of origin, etc.) or psychographic variables (personality traits, lifestyle, etc.). The moderating role of these variables could be considered and tested in future research. Finally, our study used a scenario-based experiment approach. Although this methodological approach has proven to be important and useful in management and marketing research, a question remains to be answered: to what extent can results from this scenario-based experiment accurately predict a real-world intention or behavior in the field? (e.g. Kim and Jang, 2014). Future studies might consider adopting a field experiment approach.

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