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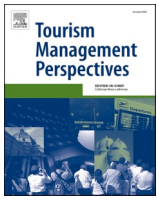

Pay more and sacrifice more for environmental practices? The role of compensation in hotel booking intentions

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ABSTRACT

This paper aims to further understand willingness to sacrifice and willingness to pay a higher price for booking a hotel with environmental practices. We examine the acceptance of individual sacrifices (without compensation) versus shared sacrifices between hotel-client (with compensation), and we shed light on effective compensatory methods. The research comprises three studies: a questionnaire to potential hotel guests and two experiments. The findings suggest that both the willingness to sacrifice and to pay a higher price are primarily determined by consumers' sustainable attitudes and perceived behavioural control. Social norms appear to encourage individuals to make bookings when sacrifices are rewarded. When customers are presented with a shared sacrifice proposition, the type of compensation (economic vs. social) influences their intention to book a hotel, although this effect is moderated by the price level. This study advances the literature on sustainable consumer behaviour and provides insights for hoteliers to enhance operational sustainability.

1. Introduction

Environmental sustainability[1] is recognized as a key element in hotel management (Yadav, Balaji, & Jebarajakirthy, 2019; Yarimoglu & Gunay, 2020). This drives hotels to avoid practices that harm the environment (e.g., excessive consumption of water, energy, disposable products, and high emissions into the air, water, and soil) so that they become greener hotels, which actively practice environmentally committed management (Casado-Díaz, Sellers-Rubio, Rodríguez-Sánchez, Sancho-Esper, et al., 2020; Han, Hsu, & Sheu, 2011; Kim & Han, 2010). However, for these green practices to be successful, tourist engagement is necessary (Dimara, Manganari, & Skuras, 2017; Verma, Chandra, & Kumar, 2019). In this regard, one recent study shows that 79 % of travellers want to travel more sustainably. However, 58 % believe such travel is more expensive, while only 39 % would be willing to pay more (Booking.com, 2023).

This apparent customer reluctance towards hotels that apply sustainable practices may stem from the fact that room rates increase as a result of implementing environmental sustainability measures –leading to higher prices (García-Pozo, Sánchez-Ollero, & Marchante-Mera, 2013; Kuminoff, Zhang, & Rudi, 2010)– with certain eco-practices compromising service quality and overall comfort (having to re-use towels, not providing certain amenities and facilities, and so on). As Casado-Díaz et al. (2020) point out, environmental practices do not come free, and many hotels raise prices in order to recover the cost of the investments made. This paradox of more sacrifice and more price for the customer can complicate the acceptance effectiveness of sustainable practices. On the one hand, hotel managers must make the environmental practices cost-effective in a way that compensates the investments made. On the other hand, they face the challenge of satisfying a consumer who may be reluctant to adopt a green consumption that requires an individual sacrifice (Baker, Davis, & Weaver, 2014). The literature posits that green hotels do not directly benefit the consumer, but rather the owners or operators (Dolnicar, Knezevic Cvelbar, & Grün, 2019; Rahman, Chen, & Bernard, 2023), such that –faced with this situation– some hotels seek to compensate their guests (Hosteltur, 2019).

Given this scenario, we propose the following research questions: What drives customer engagement in hotels with sustainable

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[1] Sustainability initiatives in hotels involve implementing measures across the economic, social, and environmental dimensions of the triple bottom line. This research focuses on the environmental dimension –specifically on hotels that adopt environmental or green practices.
Throughout the study, we refer to these hotels as environmentally sustainable hotels, green hotels, or sustainable hotels.

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environmental initiatives, specifically when these involve their willingness to sacrifice (WTS) and willingness to pay (WTP)? Which factors influence customer behaviour when the client sacrifice is compensated? What types of compensation are effective in enhancing booking intentions?

Studies that have analysed consumer responses to sustainable consumption proposals have yielded mixed results. Research has shown that tourists are willing to give up some degree of comfort and luxury to support hotels and that they are also willing to accept lower quality service (Puciato, Szromek, & Bugdol, 2023). Other studies, however, show that hotel guests do not always perceive the need to care for the environment (Baker et al., 2014; Dolnicar, Knezevic Cvelbar, & Grün, 2017). This could be due to the fact that hospitality and tourism represent a hedonic context in which people tend to prioritise entertainment and enjoyment over "making a sacrifice" in order to protect the environment (Dolnicar et al., 2019). Similarly, although some customers are willing to pay more for hotels with eco-friendly practices, such as towel reuse (Dimara et al., 2017) or water-saving (Casado-Díaz et al., 2020), others may feel that the cost of environmental initiatives should be borne by the hotels themselves since they represent a cost saving for the establishment and often imply a loss of comfort for the customer (Baker et al., 2014).

Previous studies have examined what impact individual commitment to the environment has on consumer WTS for green hotels (Rahman & Reynolds, 2016) or what impact WTS for the environment has on green hotel booking intention (Chen, Hu, He, Lin, & Mattila, 2022). As regards WTP for green hotels, this has been linked to internal factors such as environmental concern, personality traits, perceived effectiveness, moral norms, or perceived psychological benefits (Kang & Nicholls, 2021; Shehawy et al., 2024; Wei, Lu, Chen, & Lee, 2024), as well as external and situational factors such as e-WOM and the hotel's physical image to emerge from digital platforms (Galati, Thrassou, Christofi, Vrontis, & Migliore, 2023). However, these studies have neglected the influence of compensations as a condition for sacrifice and for payment. Compensations or incentives might help to overcome consumer disincentive to engage in green initiatives. Consumers may perceive certain green initiatives as being inconvenient or as implying a reduction in service quality (e.g., reduced room-cleaning service, eliminating single-use plastics). Prior research suggests that financial or non-financial incentives may help to offset these perceived losses and so motivate sustainable behaviours (e.g., Griskevicius, Tybur, & Van den Bergh, 2010; Steg, Bolderdijk, Keizer, & Perlaviciute, 2014). However, the concept of WTS (e.g., forgoing convenience for sustainability) differs from WTP (e.g., accepting higher prices for sustainable options), and the two may not always align. For instance, a customer may be willing to pay more but not sacrifice, but may be unwilling to compromise on comfort, or vice versa. Consequently, the effect of compensation may also differ and might depend on the type of reward and on the consumer's perceived reciprocity, which could influence decision-making. The effectiveness of compensations on guests' behaviours thus requires further investigation in order to better understand the mechanism that promotes sustainable intentions and so creates value experiences around eco-friendly practices. For example, some guests may prefer service-related benefits (e.g., loyalty points or free services) as compensation, while others may respond better to price reductions or social recognition (e.g., public acknowledgment of sustainable choices). Such issues highlight the need to explore the interaction between compensations, WTS, and WTP in terms of guiding hotels in enhancing guest engagement with regard to sustainability efforts and thereby improving the effectiveness of green strategies.

In an effort to fill this gap, this article aims to further our understanding of the factors that determine consumer willingness to make sacrifices –including paying a premium– when booking accommodation with sustainable practices. Specifically, this work builds upon previous extensions of the Theory of Planned Behaviour (TPB) and WTS research in terms of exploring the effect of consumers' attitudes towards hotels that apply sustainable practices, subjective norms, personal norms, and behavioural control on their WTS and WTP for these hotels, as well as on WTS when compensation is provided. Compensations (monetary or otherwise) for the sacrifices consumers make when engaging in eco-friendly practices may help them to perceive their participation as a win-win situation in which both they and the company benefit (compensation vs. cost savings).

We also look at which type of compensation is more effective in attracting consumers and what role accommodation prices play in the effectiveness of these measures. We consider in our analysis the concept of a mixed incentive package (inspired by Liu, Haws, Lamberton, Campbell, & Fitzsimons, 2015) to represent the situation where companies incentivise participation in green programmes with an incentive package containing options that benefit both themselves and others (Giebelhausen, Chun, Cronin Jr, & Hult, 2016). For example, some airlines allow customers to donate their miles to charity or to redeem them for merchandise (e.g., KLM Royal Dutch Airlines), although such programmes have scarcely been analysed in the accommodation sector.

The study makes several contributions to the literature on environmentally sustainable tourism. Firstly, from a conceptual perspective, it pioneers the concept of willingness to sacrifice in the context of green or sustainable hotels and –in line with equity theory– differentiates two levels of sacrifice: self-sacrifice (customer sacrifice with no compensation) versus shared sacrifice between the client and the hotel (customer sacrifice with compensation). Secondly, based on the theory of planned behaviour (TPB) and on the self-consistency theory, the study proposes that attitudes, personal norms, and subjective norms determine willingness to pay, but that it is mediated by the type of sacrifice the tourist is willing to make (with or without compensation), and is moderated by perceived behavioural control. Third, based on equity theory, it proposes that the type of compensation determines the intention to book an environmentally sustainable hotel, which is moderated by the price level. Understanding these dynamics also has important implications for management. The results can guide accommodation hoteliers in designing offerings that not only appeal to environmentally conscious consumers but that also persuade and engage new market segments by emphasising shared responsibility in pro-environmental efforts.

2. Literature review

2.1. Willingness to pay and willingness to sacrifice in sustainable tourist accommodation

The literature has considered that individuals' commitment to the environment is reflected in their willingness to make sacrifices to help protect it (Rahman & Reynolds, 2016). In the context of green hotels, Rahman & Reynolds (2016) distinguish two types of sacrifice: willingness to pay a higher price, and willingness to sacrifice for the green hotel in terms of convenience.

Willingness to pay more for hotels (hereinafter WTP) is considered a key pro-environmental behaviour (Galati et al., 2023; Kang & Nicholls, 2021; Shehawy et al., 2024), and is a term used in economic theory to express the maximum amount a consumer would pay to purchase a certain good or service. Sustainable practices in hotels often involve investments and infrastructure improvements (renewable energy, improved insulation, efficient heating, ventilation, and air conditioning, or focusing on local suppliers), all of which can drive up costs and, consequently, prices. Several studies have analysed the willingness to pay more for services in hotels that implement environmentally sustainable measures (García-Pozo et al., 2013; Nelson, Partelow, Stäbler, Graci, & Fujitani, 2021; Rahman & Reynolds, 2016). According to these studies, WTP is related to individuals' commitment to the environment. The literature also suggests that price sensitivity influences WTP for environmentally friendly hotel practices (Kang, Stein, Heo, & Lee, 2012). In this vein, the results of Casado-Díaz et al. (2020) indicate that tourists who paid more for their rooms were also willing to pay a higher

price premium.

Willingness to sacrifice for the environment represents the extent to which individuals forgo their own immediate self-interests in order to promote the well-being of the environment (Chen et al., 2022; Davis, Le, & Coy, 2011). This kind of commitment leads to product-specific sacrifices, such as the willingness to sacrifice for green hotels (Rahman & Reynolds, 2016). Willingness to sacrifice (WTS) involves forgoing certain positive attributes, such as comfort, quality, or luxury, due to the hotel's environmentally friendly practices (Rahman & Reynolds, 2016).

Equity theory explains how the partners in a marketplace exchange look forward to a fair and equitable trade-off of costs and benefits (Adams, 1963; Bagozzi, 1975). In the context of staying in a sustainable hotel, costs and benefits can be evaluated using equity theory (Oliver & Swan, 1989). When lodging in a hotel with sustainable practices, travellers may experience both costs and benefits. Costs might include higher room rates –as sustainable practices often come with higher pricing– as well as the additional effort required to research eco-friendly options. Travellers will also have to adapt to possible inconveniences, such as limited access to certain services, like water, daily cleaning or disposable products, i.e., personal sacrifices or forfeits against immediate and personal self-interests (Chen et al., 2022). As for the benefits, green hotel clients feel that their contribution to environmental conservation can add purpose and responsibility to their visit, that it may project a positive social image, and that it can enhance their social status by aligning with sustainable values (Rahman et al., 2023). Additionally, these hotels can enhance the guest experience by promoting eco-conscious living and by offering personalised eco-experiences, such as guided nature tours or tailor-made healthy cuisine that features organic and locally sourced products. Moreover, sustainable hotels may offer financial savings for the clients, such as discounts for using fewer resources -reusing towels or reducing room-cleaning- as well as sustainability loyalty programmes that reward guests for eco-friendly actions with discounts or future perks.

Equity theory has been applied to study prosocial consumption (M. Ross & Kapitan, 2018) and –in the context of hospitality– to demonstrate that recovery efforts, i.e., compensation, can impact behavioural intentions when users perceive equity (Kwon & Jang, 2012). According to this, when choosing a hotel with sustainable practices, two alternatives are possible in the WTS. The first is the willingness to make an individual sacrifice, where guests unconditionally agree to give up certain services or comforts that they might otherwise receive in another hotel. In this case, WTS reflects an altruistic and selfless motivation, where individuals act without expecting compensation or personal gain. This is what we refer to as willingness to selfless sacrifice (WTSS). The second alternative is willingness to make a shared sacrifice between consumer and hotel, wherein guests give up certain services or amenities, but with conditions; that is, in exchange for compensation from the hotel in the form of discounts or other types of services (flexible opening hours, use of other facilities, etc.) –in other words, the willingness to make a compensated sacrifice (hereinafter WTCS). These constructs are conceptually distinct since they represent different psychological processes; the former reflects unilateral commitment, whereas the latter involves a sense of shared responsibility and fairness in contributing to a common goal. This distinction is important because, while previous research has examined the willingness to sacrifice for green accommodation (Agag, 2019; Rahman & Reynolds, 2016), the question of whether consumer commitment to hotels' green practices changes depending on compensations and perceived reciprocity from the provider has yet to be explored.

2.2. Drivers of willingness to pay and willingness to sacrifice

The Theory of Planned Behaviour (TPB) has become a dominant framework for explaining consumer pro-environmental behaviour. In the context of green hotels, many researchers have used TPB to explore and explain consumer intention (Chen & Tung, 2014; Han & Yoon, 2015) and have demonstrated its importance and applicability in predicting consumer intentions when choosing green hotels (González-Rodríguez, Díaz-Fernández, & Font, 2020; Yarimoglu & Gunay, 2020). According to the TPB model (Ajzen, 1991), behavioural intentions are a function of three psychological factors: attitude, subjective norms, and perceived behavioural control, with the combination of these three factors determining behavioural intention. This classical TPB model has been extended to include personal norms as another predictor of behaviour (Parker, Manstead, & Stradling, 1995). Several studies have shown that the extended TPB improves the predictability of the model in the context of altruistic behaviours such as pro-environmental behaviours (Morren & Grinstein, 2021).

In the context of green hotels, several studies have applied the TPB to explain the intention to book or recommend these hotels (Fauzi, Hanafiah, & Kunjuraman, 2024; Han, Hsu, & Sheu, 2010; Han & Kim, 2010; Han & Yoon, 2015; Nimri, Patiar, & Jin, 2020; Olya, Bagheri, & Tümer, 2019; Teng, Wu, & Liu, 2015; Yeh, Guan, Chiang, Ho, & Huan, 2021; among others). In the present study, we propose advancing this line of research by extending the application of this theoretical framework to explain WTP, WTSS, and WTCS in the context of environmental practices in the hospitality sector. Moreover, and unlike previous studies in this context, we include personal values as a predictor, and we consider perceived behavioural control as a moderating factor in the impact of other antecedents (attitude and norms), in line with the original proposition of the theory (Ajzen, 1991, 2020).

Attitude is defined as a person's overall evaluation of a specific behaviour (Ajzen, 1991). It represents internal feelings as well as positive or negative evaluations that arise when a person performs certain behaviours (Fishbein & Ajzen, 2010). The relationship between pro-environmental attitude and WTP has been evidenced in the case of restaurants (Choi & Parsa, 2007) and hotels (Dimara et al., 2017; Yadav et al., 2019). Han, Hsu & Lee (2009) proved that consumers who display more positive attitudes towards eco-friendly habits in their daily lives are willing to pay more to stay at a green hotel. Such a favourable attitude towards choosing green hotels –as a demonstration of social and environmental responsibility– would lead consumers to intensify their behaviour by paying a higher price for services (Kang et al., 2012). This attitude in favour of sustainable hotels would also condition the consumer to voluntarily assume renouncing certain services or comforts, either through individual sacrifice (WTSS) or through shared sacrifice (Han, Hwang, Lee, & Kim, 2019) and receiving compensation from the hotel (WTCS). Individuals who hold a positive belief in the ability of hotels' sustainable practices to protect the environment will feel more encouraged to engage and commit to these actions, either through an altruistic effort or through an effort that is financially rewarded or compensated in another way. Based on these premises, the following hypotheses are proposed:

H1. A positive attitude towards environmentally sustainable hotels positively influences willingness to selfless sacrifice (H1a), willingness to compensated sacrifice (H1b), and willingness to pay (H1c).

Subjective norms refer to normative beliefs and the motivation to comply with them. Normative beliefs are the perceived behavioural expectations of a person's significant referents (e.g., family, relatives, friends, neighbours, or co-workers), and the motivation to comply involves a person's desire to conform to the views of their key referents regarding a particular behaviour (Ajzen & Fishbein, 1980; Nimri et al., 2020). When tourists perceive that people who are important to them value or promote green accommodation, they will be inclined to pay more in response to what is expected of them. The direct or indirect relationship between subjective norms and WTP has been highlighted in other contexts related to green consumption (Bishop & Barber, 2015; Tan, Ying, Gao, Wang, & Liu, 2023), including green hotels (Shehawy et al., 2024). In a similar vein, subjective norms could also generate a sense of responsibility that leads individuals to adopt sustainable behaviours, even if it requires a sacrifice. Since the motivation for this

behaviour is external when driven by subjective norms, a lower level of commitment is expected. As a result, individuals are more likely to agree to forgo certain services if they receive a reward in return, i.e., WTCS. Nevertheless, the potential influence of social expectations on WTSS should also be considered, even when the sacrifice is not compensated, since individuals may act in response to what is expected of them. Following these assumptions, the following hypotheses are proposed:

H2. The subjective norm concerning environmentally sustainable hotels positively influences willingness to selfless sacrifice (H2a), willingness to compensated sacrifice (H2b), and willingness to pay (H2c).

Personal norms represent internalised rules that vary among individuals within a society and that influence behaviour in specific contexts (De Groot, Bondy, & Schuitema, 2021; Han et al., 2019). While subjective norms arise from the expectations of others, personal norms stem from a moral obligation based on one's own self-expectations. Personal norms shape individuals' moral judgments and guide their behaviour (De Groot et al., 2021). Indeed, several studies have found a stronger effect of personal norms on intention or behaviour when compared to subjective norms (Morren & Grinstein, 2021). According to Cornelissen, Dewitte, Warlop & Yzerbyt (2007), the activation of consumers' pro-environmental self-perception triggers pro-environmental behaviours. In the same vein, the value-belief-norm theory posits that personal norms determine pro-environmental behaviours, as evidenced in the case of the willingness to stay at green hotels (Chen & Tung, 2014; Fauzi et al., 2024; Wang, Zhang, & Wong, 2024). Therefore, in this context, if consumers feel that their behaviour is guided by their values regarding environmental protection and their intrinsic motivation to engage in sustainable tourism, then their determination may involve paying a higher price for staying in a hotel with sustainable practices or forgoing services, even without expecting any compensation from the hotel. The following hypotheses are thus proposed:

H3. The personal norm concerning environmentally sustainable hotels positively influences willingness to selfless sacrifice (H3a), willingness to compensated sacrifice (H3b), and willingness to pay (H3c).

Perceived behavioural control refers to an individual's perception of the factors that may facilitate or impede performing a certain behaviour (Ajzen, 1991) and the ability to cope with such factors. Facilitators can include factors such as time, money, skills, and confidence that affect the ability to perform a certain behaviour (Chen & Tung, 2014). In the specific context of hotels that employ sustainable practices, behavioural control may be primarily related to economic cost; that is, an individual's ability to afford the price of such hotels as well as the effort required to find and book these establishments. In this study, we conceptualize behavioural control in negative terms; in other words, as the lack of capacity or resources to afford accommodation in an environmentally sustainable hotel.

According to the original TPB proposal (Ajzen, 1985) as well as recent research (La Barbera & Ajzen, 2020), perceived behavioural control is assumed to moderate the impact of attitude and subjective norms on intentions and behaviours. A favourable attitude and a supportive subjective norm will contribute to behavioural intentions if individuals perceive themselves as being capable of carrying out the behaviour (Ajzen, 2020). Following this idea, we propose that the lack of control or financial difficulty in staying at sustainable hotels represents a moderator that affects the extent to which attitudes and norms influence the economic aspects of choosing a sustainable hotel, i.e., WTP and WTCS. When individuals feel that they lack sufficient financial resources to afford sustainable hotels, the positive effect of attitude and subjective and personal norms on WTP will thus be weakened. However, the effect on WTCS will be strengthened, as individuals will prefer an option that minimises their financial burden.

While financial constraints do affect individuals' ability to pay and their preference for compensation, it may not necessarily impact an individual's willingness to forgo certain services (WTSS). WTSS reflects voluntary acceptance of inconvenience or reduced service quality in exchange for sustainability. It is a behaviour that is more aligned with intrinsic motivation and value-driven decisions rather than with external constraints or limitations. In this sense, Sheeran, Trafimow, Finlay & Norman (2002) indicate that when individuals are attitudinally and normatively driven, perceived control cannot directly predict behavioural intentions. Therefore, if willingness to sacrifice is voluntary and unconditional, perceived behavioural control will play a weaker role. However, the lack of behavioural control may reduce the consumer's ability to translate positive attitudes, personal and social norms into future intentions, and may act as a moderator in contexts where perceived barriers are high for the individual. In line with this approach, the following hypotheses are proposed:

H4. (The lack of) behavioural control concerning environmentally sustainable hotels negatively moderates the effect of attitude (H4a), subjective norm (H4b), and personal norm (H4c) on willingness to pay.

H5. (The lack of) behavioural control concerning environmentally sustainable hotels positively moderates the effect of attitude (H5a), subjective norm (H5b), and personal norm (H5c) on willingness to compensated sacrifice.

Following a principle of consistency, self-consistency theory (Festinger, 1957) posits that individuals act in a manner consistent with their thinking or prior actions, even if it goes against their personal interest. Individuals seek to maintain psychological consistency between their beliefs, attitudes, and behaviours. Based on this, the commitment-consistency theory (Cialdini, 2009) suggests that persuading people to comply with a small request increases their likelihood of complying with a subsequent greater request. Vaidyanathan & Aggarwal (2005) apply this theory to demonstrate that consumers who are induced to make small active commitments to an environmental cause (e.g., a donation made by the company without any apparent incremental cost to the customer) are more likely to remain consistent with that commitment and have a greater intention to purchase products that support said cause.

The current study thus employs the self-consistency theory and the commitment-consistency theory to propose that individuals who have already demonstrated a level of commitment and who are willing to forgo certain services -WTSS- will be more likely to take an additional step and pay a higher price for an environmentally sustainable service. However, when individuals are willing to give up certain services only in exchange for compensation -WTSS- such as further discounts or the inclusion of additional services, then they are conveying a conditional engagement to sustainable practices. In these circumstances, they seek a trade-off between costs (discomfort) and benefits (discounts or services), such that they will not be willing to pay a higher price than in other accommodation alternatives. Based on the above, the following hypotheses are presented:

H6a. Willingness to selfless sacrifice positively influences willingness to pay.

H6b. Willingness to compensated sacrifice negatively influences willingness to pay.

In turn, these direct effects allow us to propose the mediating effects of the willingness to sacrifice. On the one hand, individuals who hold favourable attitudes towards sustainable hotels and who maintain subjective and personal norms that encourage them to choose this type of accommodation will be more inclined to pay a higher price, as long as they are also willing to engage in personal sacrifices. From a self-consistency perspective, paying a higher price will be the ultimate consequence of their convictions about sustainable hotels (attitudes and norms) that will lead them to forgo certain comforts in favour of environmentally friendly accommodation. We therefore posit the following hypothesis:

H6c. Mediation. Willingness to selfless sacrifice positively mediates the effect of attitude, subjective norm, and personal norm on willingness to pay.

On the other hand, there is a moderated mediation between attitudes, subjective norms, and WTP, explained by WTCS and the effect of perceived behavioural control. As individuals respond to their attitudes as well as subjective and personal norms by accepting a compensated sacrifice from hotels with eco-friendly practices, they are exhibiting a lower willingness to make an economic sacrifice, since they expect others to contribute as well –thereby reducing their intention to pay more. This negative mediated effect will be stronger when individuals perceive a lack of behavioural control; that is, when they lack sufficient resources to afford a green hotel. Accordingly, we posit the following hypothesis:

H6d. Moderated-mediation. There will be a significant moderated mediation effect, such that attitude, subjective norm, and personal norm will have a stronger effect on WTCS, leading to lower willingness to pay, when there is a lack of behavioural control.

2.3. Compensation and booking intention

According to the equity theory, the perception of equity is linked to a compensation policy (Akhmedova et al., 2020; Grewal, Roggeveen, & Tsiros, 2008). Kwon & Jang (2012) indicate that compensation is necessary in order to restore equity to the relationship. In the case of accommodation in sustainable hotels, consumers will make their purchasing decisions based on the trade-off between expected benefits and costs. Hotel guests may be faced with an establishment that proposes giving up a service or a certain comfort that the guest could receive in another hotel; that is, an individual sacrifice with no compensation in return. In this case, it is the consumer who makes an effort and who gives up part of the expected service, while the hotel maintains its price or income level and even obtains certain extra benefits (e.g. brand reputation, competitive advantage).

However, another possibility is to propose incentives for customers who collaborate with sustainable practices; that is, a compensated sacrifice can be suggested between the guest (who forgoes certain services) and the hotel (which forgoes extra profit). When potential clients are made aware of the compensation that they will receive for making sacrifices and for maintaining equity in their relationship with the company, their willingness to make a purchase will be greater. If potentially discomforting pro-environmental behaviour does not yield any profit for the hotel but provides the client with a financial benefit, then their intention to stay at the hotel will increase. Ultimately, if hotel managers propose specific incentives and rewards, they might encourage active consumer participation and promote more sustainable and environmentally friendly behaviour and thereby improve the overall perception of the service.

The following hypothesis is thus proposed:

H7. The perception of a compensated sacrifice increases the intention to book a sustainable hotel in comparison to a sacrifice with no compensation.

The customer of a sustainable hotel will not only make their booking decision based on whether they receive compensation but also based on the type of compensation to be received. In this sense, sustainable hotels can choose between economic or social compensations. However, not all incentives are the same, and the nature thereof may generate a different response. Giebelhausen et al. (2016) consider two types of incentives: "self-incentives" (direct reward to the participant in a green programme), and "other benefiting" (stimuli that offer no utility directly to the participant) and showed how managers can affect customer satisfaction by manipulating incentive characteristics, (participant and non-participant in voluntary green programmes).

Social identity theory (Tajfel, 1981) proposes that people think of both themselves and of others in terms of groups. Individuals have a personal identity (sense of I) and a social or intragroup identity (sense of we), versus other extra group individuals (they). On this basis, Chapman, Masser & Louis (2020) differentiate self-oriented versus other-oriented motives to explain charitable preferences. Following this reasoning, we differentiate economic compensation (self-oriented motives) and social compensation (other-oriented motives).

Economic compensations are presented to the client through economic value, by offering supplementary services for the same price or because the price for the service offered is reduced, with the aim being to re-establish economic equity with the individual. On the other hand, social compensation involves restoring equity by reverting the possible benefits obtained by the hotel to society; that is, through donations given in exchange for the sacrifice made by the client. In this case, hotels could donate part of the savings generated by their clients to causes chosen by said clients or that align with their CSR values.

Studies in the hotel context have indicated that conservation efforts improve when appeals are made that stress the social aspect of protection (Goldstein, Cialdini, & Griskevicius, 2008; Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007). However, other authors defend economic arguments. Nolan, Schultz, Cialdini, Goldstein & Griskevicius (2008) indicate that economic reasons –together with environmental reasons– work best vis-à-vis influencing people when they decide to choose ecological products. Considering the possibility that consumers are more inclined towards self-benefit, the following hypothesis is established:

H8. An economic compensation increases the intention to book a sustainable hotel in comparison to a social compensation.

2.4. The moderating effect of price

Grewal et al. (2008) argue that in certain conditions compensation has no impact on evaluations. In the case of the compensation that a sustainable hotel guest might receive, its impact will be determined by price. The higher the price consumers are paying, the greater their need to restore equity to the relationship. Indeed, price is always considered one of the determining factors in the consumer's decision-making process. Bolton & Lemon (1999) found that customer perception of price fairness or unfairness (payment equity) significantly affected their behavioural intentions. If there is a financial sacrifice, equity will be restored with economic compensation, since this implies a reduction in the price the individual must pay for staying.

However, if the accommodation price is low, the perception of economic sacrifice will be less. In this case, a discount would not be a very significant stimulus because the final price would not be substantially reduced in absolute terms. In contrast, a social action could reinforce the perception of altruism and social equity by contributing –through booking a sustainable hotel– not only to the environment but also to a just cause. Based on this approach, the following hypotheses are proposed:

H9. When the hotel price is high, booking intention is greater if the compensation is financial (H9a), while when the hotel price is low, booking intention is greater if the compensation is social (H9b).

The proposed hypotheses are shown in Fig. 1 and Fig. 2.

3. Study 1

The aim of Study 1 is to test hypotheses H1, H2, H3, and H4, and to provide evidence of the drivers of WTP and WTS in the context of sustainable hotels.

3.1. Data collection

Data were collected with the collaboration of Spanish undergraduate

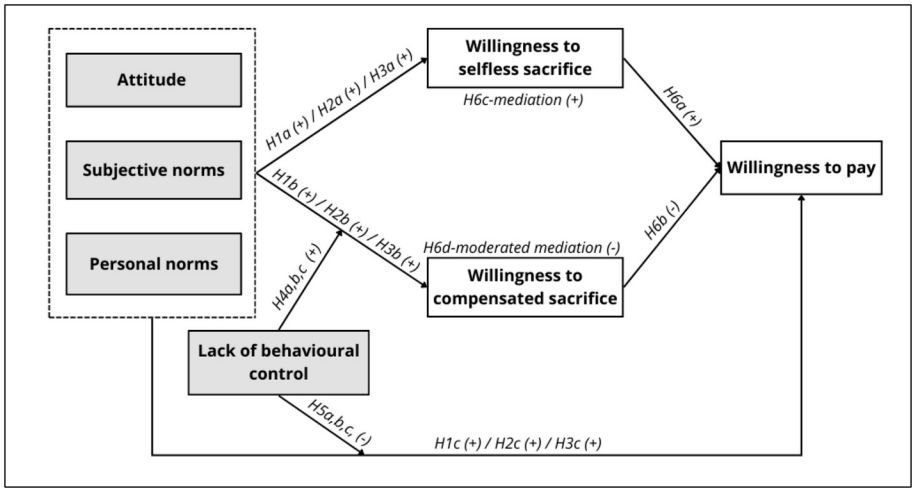

Fig. 1. Proposed hypotheses (Study 1).

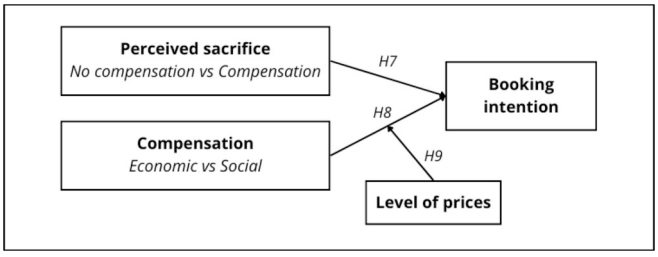

Fig. 2. Proposed hypotheses (Studies 2 & 3).

students who served as interviewers. They were briefed on the research objectives and provided with detailed guidelines for conducting the fieldwork. Respondents were provided with a definition of sustainable hotels at the beginning of the questionnaire so as to avoid interpretations that might compromise the reliability of the answers; hotels aim to contribute to environmental, social, and economic sustainability by promoting different measures such as a reduction in the use of water, electricity, and plastics, less food waste, use of local food (km 0), support for local employment, preservation of heritage, culture and traditional values, etc. Of the 903 completed questionnaires, only those who declared having an income and who could book a hotel were included. The final sample was thus made up of 594 participants. As regards sample distribution, 64.1 % were women, 44.3 % were under the age of 30, and 28.5 % reported having a low income (under €25,800), while the remaining 71.5 % declared a medium (€25,800–€65,000) to high income (above €65,000). These ranges are based on data from Spanish National Institute of Statistics INE (2023).

3.2. Measurement of variables

The measurement of the variables is shown in Table 1. All items were measured through seven-point Likert scales. Measurement of WTP was based on the scale of Rahman & Reynolds (2016). To measure WTSS in sustainable hotel services, the scale proposed by Rahman & Reynolds (2016) was also used. To measure WTCS, a scale like the previous one was created, with the addition that the sacrifice would be accompanied by a reward or compensation from the hotel. As regards the independent variables, attitude towards sustainable hotels was measured adapting the behavioural beliefs' scale of Han et al. (2010) to the context of sustainable hotels. Subjective norm is reflected in two items that refer to the expected social image of staying in a sustainable hotel, based on the Teng, Lu & Huang (2018) scale concerning the positive opinion that other people have of the use of sustainable hotels. Teng et al. (2018) developed a five-item scale that combines subjective and personal norms or preference and that are defined as perceived value. We thus selected the two items aligned with the core conceptualization of subjective norms in TPB. In order to measure personal norm, we created an ad hoc scale, based on the items proposed by Teng et al. (2018), which reflect a personal preference for green hotels, and the items proposed by Han et al. (2019) to measure personal norm in the context of environmentally responsible cruise choices, which indicate individuals' activation to perform a sustainable behaviour. The adapted items capture the key elements of personal norms: emotional reinforcement, social influence, and proactive engagement. Behavioural control was measured negatively by means of two items that reflect difficulties in terms of affording accommodation in a hotel with sustainable practices, based on the control belief scale of Han et al. (2010). (See Web Appendix for more information about the questionnaire and the measurement variables).

Finally, five control variables were included in the model: previous experience in sustainable hotels (0 = never stayed at a sustainable hotel; 1 = has stayed at one at some time), frequency of stays at hotels over the last 12 months (1 = none; 2 = once; 3 = between two and four times; 4 = more than four times); income level (0 = low; 1 = middle-high); age (0 = less than 30 years; 1 = 30 years or more), and gender (0 = male; 1 = female).

3.3. Analysis and results

To test the hypotheses and the validity of the structural model that supports them, partial least squares SEM was applied, using SmartPLS software. Firstly, to validate the scales, we verified that the reliability values exceeded the recommended minimums. Likewise, the Fornell & Larcker (1981) criterion was applied to establish discriminant validity. We found that the square root of the AVE for each construct exceeds the corresponding correlations between that construct and any other construct (Table 2).

Once the reliability and validity of the scales were ensured, the structural model was estimated (Table 3). The effect of the control variables (previous experience, frequency of hotel accommodation, income, age, and sex) on the three dependent variables (WTP, WTSS, and WTCS) was included in the model estimation.

The results indicate that the positive attitude of potential users towards sustainable hotels does increase WTSS ($\beta = 0.105$, $p < 0.05$), although it has no impact on WTCS, such that H1a is accepted and H1b is rejected. Moreover, a positive attitude has a direct impact on WTP ($\beta = 0.088$, $p < 0.05$), such that H1a is supported. As regards H2, the subjective norm -i.e., the positive impression that choosing sustainable

Table 1
Constructs and measurement variables.

Constructs and items	Mean	SD	Factorial loading
Attitude *Adapted from* Han et al. (2010)			
Staying in a hotel with sustainable practices would allow me to protect the environment.	5.79	1.306	0.825
Staying in a hotel with sustainable practices would allow me to enjoy local products and help the local economy.	6.04	1.213	0.809
Staying in a hotel with sustainable practices would allow me to be more socially responsible.	5.73	1.467	0.861
Staying in a hotel with sustainable practices would allow me to get involved in environmentally friendly practices.	5.88	1.342	0.879
(Lack of) Behavioural control *Adapted from* Han et al. (2010)			
Booking a hotel with sustainable practices is financially costly for me	5.05	1.572	0.853
Booking a hotel with sustainable practices requires time and effort from me	4.38	1.747	0.838
Subjective norms *Adapted from* Teng et al. (2018)			
If I stayed in a sustainable hotel I would make a good impression on other people.	5.03	1.591	0.904
Staying in a sustainable hotel would improve the way I am perceived.	4.52	1.713	0.922
Personal norms			
Staying in a sustainable hotel would make me feel good.	5.92	1.256	0.816
I would like to influence other people to stay in sustainable hotels.	5.58	1.502	0.902
I would like to participate in sustainable hotel campaigns	5.00	1.774	0.810
Willingness to selfless sacrifice (WTSS) *Adapted from* Rahman & Reynolds (2016)			
I am willing to receive a lower quality of service than other non-sustainable hotels.	4.61	1.692	0.838
I am willing to give up some amenities that other non-sustainable hotels might offer me.	4.99	1.540	0.940
I am willing to sacrifice the luxury that other non-sustainable hotels might offer	5.16	1.514	0.909
Willingness to compensated sacrifice (WTCS)			
I am willing to receive a lower quality of service, only if the hotel rewards me otherwise.	4.68	1.713	0.904
I am willing to give up some amenities, only if the hotel rewards me in another way.	4.66	1.620	0.922
I am willing to sacrifice luxury, only if the hotel rewards me otherwise.	4.72	1.692	0.886
Willingness to pay (WTP) *Adapted from* Rahman & Reynolds (2016)			
I am willing to pay more for a sustainable hotel.	4.55	1.583	0.907
It is acceptable to pay more for a hotel that applies sustainable practices.	4.78	1.649	0.812
I am willing to spend more to stay in an environmentally friendly hotel if I can help to improve the environment.	5.15	1.516	0.901
Previous experience			
Have you ever stayed in a hotel with sustainable practices?	0.25	0.433	1.000

accommodation may create on others- does not motivate individuals to make selfless sacrifices (H2a is rejected) nor to pay more (H2c is rejected). However, they are willing to forgo certain services in exchange for compensation ($\beta = 0.148$, $p < 0.05$), in line with H2b. As regards personal norm, it has a positive impact on WTSS ($\beta = 0.407$, $p < 0.01$), WTCS ($\beta = 0.109$, $p < 0.05$), and WTP ($\beta = 0.26$, $p < 0.01$), thereby supporting H3a, H3b, and H3c. It is worth noting that personal norm is the variable with the greatest impact on WTSS and WTP.

The interaction hypotheses outline that the lack of behavioural control is a boundary condition that lessens or intensifies the impact of attitude, subjective norm, and personal norm. The results do not support H4a, H4b, and H4c; i.e., behavioural control does not strengthen the impact of attitude, subjective norm, and personal norm on WTCS, although lack of behavioural control does have a significant positive impact on WTCS ($\beta = 0.126$, $p < 0.05$), which indicates that the greater the lack of resources to afford the cost of a hotel with sustainable practices, the greater the willingness to sacrifice conditioned to receiving compensation. On the other hand, at a 90 % significance level, the lack of behavioural control does weaken the positive effect of attitude ($\beta = -0.076$, $p < 0.10$) and subjective norm ($\beta = -0.071$, $p < 0.10$) on WTP, thereby supporting H5a and H5b. However, the interaction between behavioural control and personal norm has a positive effect on WTP –contrary to H5c. This result suggests that in the absence of behavioural control, personal norm becomes the only variable to influence WTP, as shown in Figs. 3, 4, and 5.

As proposed in hypothesis H6a, WTSS in sustainable hotels also encourages clients to pay more for those hotels ($\beta = 0.310$, $p < 0.00$). However, the results lead H6b to be rejected; WTCS does not negatively influence WTP a higher price. This leads to a positive and significant indirect effect of attitude ($B = 0.033$, $p < 0.05$) and of personal norm ($B = 0.126$, $p < 0.01$) on WTP through the mediation of WTSS, although the indirect effect of subjective norm is not significant. We thus find partial support for H6c. As for moderated mediation, H6d is rejected, since the mediating effect of WTCS is not significant (see Table 4).

Finally, as regards the control variables, only four significant effects were obtained. Younger consumers (under 30 years old) and those with previous experience in sustainable hotels are more likely to pay more to stay in sustainable hotels. We also found that individuals who stay more frequently show lower WTSS-and that those with less income show higher WTCS Gender is not related to willingness to pay more or to make sacrifices.

3.4. Discussion

These results highlight that individuals are willing to make selfless sacrifices; that is, without compensation, and to pay more for hotels with sustainable practices when they hold a positive attitude towards these hotels and when their behaviour is guided by personal norms in favour of this type of accommodation. On the other hand, subjective norm and the lack of financial resources to afford these hotels are the main determinants of the willingness to make compensated sacrifices, although personal norms also have a positive impact. Indeed, personal norms emerge as the most influential variable, and positively affect WTSS, WTCS, and WTP. This underscores the importance of intrinsic motivation in driving pro-environmental actions in the hospitality sector. Interestingly, subjective norms do not influence WTSS or WTP, suggesting that external social pressures may not be strong enough to drive individual and financial commitment.

The moderating effect of behavioural control indicates that when individuals lack financial resources, they are only willing to pay more when guided by personal norms. Finally, the mediating role of WTSS in WTP amplifies the influence of attitude and personal norms on WTP, reinforcing the importance of fostering consumer willingness to make personal sacrifices. Conversely, the lack of significant mediation by WTCS highlights a potential disconnect between compensated sacrifices and individual consumer engagement.

4. Study 2

This second study aims to analyse whether the proposal of non-compensated sacrifices by the guest versus the proposal of compensated sacrifices might influence the intention to book a hotel (H7). Specifically, we identify two scenarios that a hotel can propose: (1) a sacrifice in service without compensation, meaning that the customer consciously forgoes certain amenities, luxuries, or quality that non-sustainable hotels might offer; or (2) a compensated sacrifice, where guests relinquish amenities, luxuries, or quality in exchange for a reward or compensation from the hotel (e.g., discounts, additional services, or donations to a social cause). These scenarios were designed to align with

Table 2
Correlation matrix and reliability measures.

	Reliability measures			Correlations and discriminant validity test						
	α	CR	AVE	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Attitude	0.867	0.908	0.713	*0.844*[*]						
(2) Behavioural control[**]	0.602	0.834	0.715	−0.091	*0.846*					
(3) Subjective norms	0.802	0.910	0.834	0.298	0.171	*0.913*				
(4) Personal norms	0.796	0.881	0.711	0.573	−0.137	0.391	*0.843*			
(5) WTP	0.847	0.907	0.765	0.336	−0.022	0.275	0.479	*0.875*		
(6) WTSS	0.878	0.925	0.804	0.339	−0.052	0.196	0.473	0.475	*0.897*	
(7) WTCS	0.889	0.931	0.818	0.102	0.174	0.226	0.167	0.207	0.365	*0.904*

α: Cronbach's alpha / CF: composite reliability / AVE: percentage of variance extracted.
[*] The square root of the variance extracted is presented on the main diagonal.
[**] Behavioural control is measured in negative terms, such that it indicates the lack of behavioural control.

Table 3
Estimation of the structural model.

Hypotheses	Proposed relationship	Estimation	*P* value	Result
H1a	Attitude → WTSS	0.105	0.019	Supported
H1b	Attitude → WTCS	0.020	0.364	Rejected
H1c	Attitude → WTP	0.088	0.030	Supported
H2a	Subjective norm → WTSS	0.010	0.407	Rejected
H2b	Subjective norm → WTCS	0.148	0.003	Supported
H2c	Subjective norm → WTP	0.049	0.123	Rejected
H3a	Personal norm → WTSS	0.407	0.000	Supported
H3b	Personal norm → WTCS	0.109	0.031	Supported
H3c	Personal norm → WTP	0.268	0.000	Supported
	Behavioural control[a] → WTCS	0.133	0.001	
H4a	Behavioural control[a] x Attitude → WTCS	0.050	0.184	Rejected
H4b	Behavioural control[a] x Subjective norms → WTCS	0.022	0.329	Rejected
H4c	Behavioural control[a] x Personal norms → WTCS	0.072	0.124	Rejected
	Behavioural control[a] → WTP	0.012	0.396	
H5a	Behavioural control[a] x Attitude → WTP	−0.076	0.081	Supported
H5b	Behavioural control[a] x Subjective norms → WTP	−0.071	0.053	Supported
H5c	Behavioural control[a] x Personal norms → WTP	0.140	0.007	Rejected
H6a	WTSS → WTP	0.310	0.000	Supported
H6b	WTCS → WTP	0.017	0.352	Rejected
Control[b]	Age → WTP	−0.110	0.001	
Control	Previous experience → WTP	0.062	0.040	
Control	Frequency → WTSS	−0.096	0.005	
Control	Income level → WTCS	−0.117	0.001	

(a) Lack of behavioural control.
(b) For the control variables, only significant effects are reported.

practices observed in the hospitality industry.

4.1. Design

We designed a one-factor between-subjects design with three groups (individual sacrifice without compensation, compensated sacrifice with price compensation, and compensated sacrifice with service compensation). A total of 270 individuals participated in the experiment (67 % women; 19.6 % aged between 18 and 29; 11.9 % aged between 30 and 39, 27.4 % aged between 40 and 49, and 41.1 % over 50), divided into three experimental groups. Each was sent a questionnaire wherein they were presented with a hotel offer for a one-week summer holiday at a rate of €99 per night for a double room. Each group was exposed to one of three experimental situations. Our study simulates realistic hotel sustainability initiatives to examine consumer responses to varying compensation structures. Participants were told that the hotel had implemented a sustainability programme that involved not having the room cleaned two days a week.

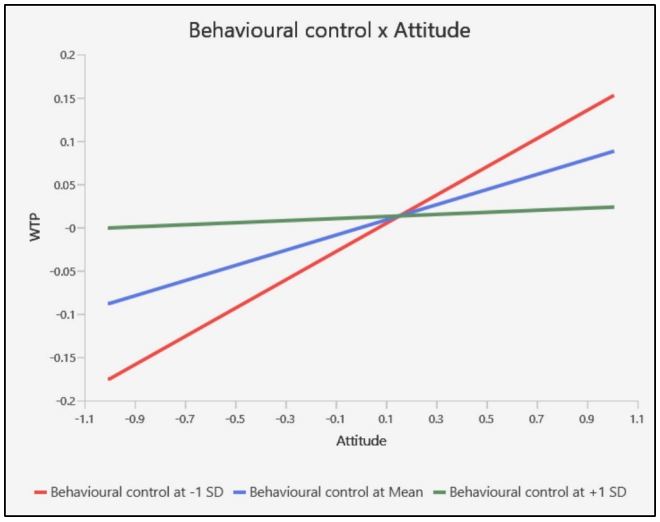

Fig. 3. Moderating role of lack of behavioural control (H5a).

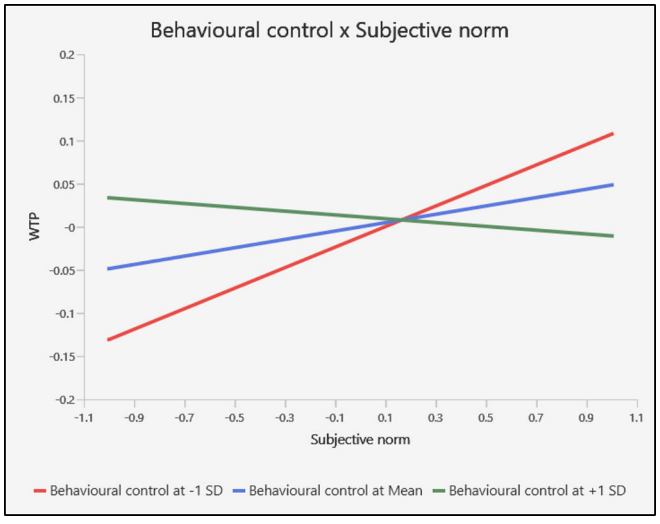

Fig. 4. Moderating role of lack of behavioural control (H5b).

In the first experimental condition, this scenario was an initiative focused solely on environmental responsibility without providing immediate incentives or compensation to guests. This scenario where customers choose not to clean their rooms, reflects credible practices already observed in the market. For instance, the European hostel chain A&O has introduced the option for guests to waive the daily cleaning of rooms at check-in, allowing 10,000 cleanings to be dispensed with in

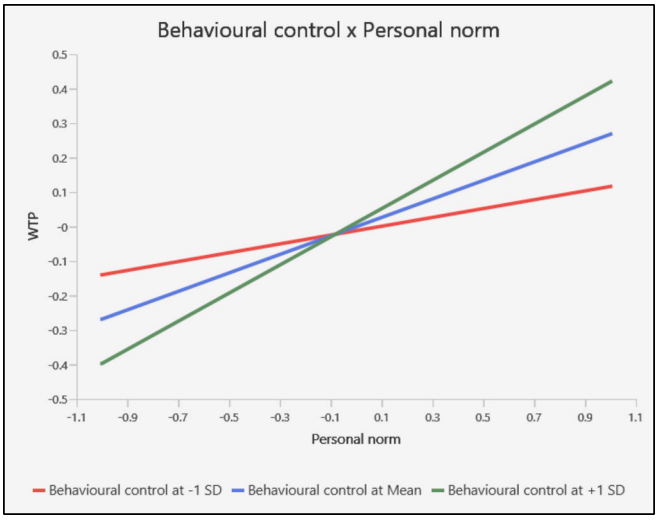

Fig. 5. Moderating role of lack of behavioural control (H5c).

Table 4
Estimation of mediation and moderated mediation.

Hypotheses	Proposed relationships	Coefficient	P value	Result
H6c	Attitude → WTSS → WTP	0.033	0.025	Supported
	Subjective norms → WTSS → WTP	0.003	0.407	Rejected
	Personal norms → WTSS → WTP	0.126	0.000	Supported
H6d	Attitude → WTCS → WTP	0.000	0.451	
	Subjective norms → WTCS → WTP	0.003	0.362	
	Personal norms → WTCS → WTP	0.002	0.374	
	Behavioural control[a] x Attitude →WTCS →WTP	0.001	0.406	Rejected
	Behavioural control[a] x Subjective norm → WTCS → WTP	0.000	0.443	Rejected
	Behavioural control[a] x Personal norm →WTCS → WTP	0.001	0.389	Rejected

(a) Lack of behavioural control.

just two months (Hosteltur, 2019). Indeed, cleaning a single room consumes approximately 7.5 l of water (toilets, sinks, showers, and floors) and 0.07 kWh of energy when vacuumed for five minutes with an 850 watt hoover. According to the company, customers are willing to become actively involved in this environmental policy (Hosteltur, 2019).

For the second and third conditions, financial compensation was proposed. This measure reflects a growing trend in the hospitality sector. For instance, the Gran Meliá Palacio de Isora hotel in the Canary Islands, Spain, has implemented the 'Join Green Choice' programme. Guests can decline housekeeping services in exchange for a €20 daily discount, which can be used at the hotel's bars and restaurants, as well as for in-room service, the minibar, and select spa treatments Sensitur (2019). DoubleTree by Hilton has adopted similar practices in its UK hotels (Hosteltur, 2019). In an experimental condition, the same sustainability programme was presented, although it was pointed out that the hotel would compensate them with a 10 % discount (compensated sacrifice, price compensation) in exchange for giving up this service. By presenting a sustainability programme paired with a 10 % discount as compensation for reduced services, hotels aim to balance the trade-offs between sustainable practices and customer satisfaction. Offering a financial incentive, such as a discount, not only mitigates the perceived loss but also reinforces the idea that sustainability can be both a collective responsibility and a rewarding choice.

In the other experimental condition, it was proposed that forgoing the service would be compensated with complimentary spa access (compensated sacrifice, service compensation), representing another common approach where non-monetary rewards –such as added amenities or services– are offered to enhance guest satisfaction while promoting sustainable practices. (See Web Appendix for more detailed information).

Participants were subsequently asked about their willingness to book a week's holiday at that hotel, their hotel rating, their general attitude towards sustainable hotels, and the maximum price they would be willing to pay.

4.2. Manipulation check

Respondents were asked whether they were aware of the sacrifice they had to make ("In this offer, I realize that the guest must sacrifice and forgo a full cleaning service").

Results indicated no significant group differences ($M_{no\_com} = 4.70$; $M_{com\_price} = 4.33$; $M_{com\_service} = 4.58$; F (2, 267) =0.704; $p = 0.495$).

To assess the distinction between non-compensated and compensated sacrifice, participants were asked whether they were aware of the compensation given by the hotel ("In this offer, I notice that this hotel commits to compensating the guest for the inconvenience"). Here, significant differences were observed ($M_{no\_com} = 4.12$; $M_{com\_price} = 5.73$; $M_{com\_service} = 5.97$; F (2, 267) = 29.339; $p = 0.000$). These differences were manifested between the control group (no compensation) and the group with a price discount (p = 0.000), and between the control group and the group with additional service (p = 0.000), although no significant differences were found between the groups with a discount and with additional service ($p = 0.647$).

4.3. Measurement of variables

Willingness to book the hotel under the conditions described in the experimental situation was measured using a single indicator. Additionally, three covariates that may influence the booking intention for a sustainable hotel were considered: perceived sustainability image, attitude towards sustainable hotels, and maximum acceptable price. Perceived sustainability image was measured using four indicators ($\alpha = 0.920$) based on previous scales (Martínez, 2015; Nguyen & Leblanc, 2001; Wang, Wang, Xue, Wang, & Li, 2018). Attitude was measured through four items ($\alpha = 0.872$) that reflect a favourable personal attitude towards accommodation in sustainable hotels due to the benefits offered (based on the scale of Han et al., 2010). As regards maximum acceptable price, participants were finally asked the maximum price they would be willing to pay (or had already paid) for a double room in a hotel. This was measured via an interval scale, coded with the peak price of each interval: up to €60 (7.4 %), up to €80 (19.6 %), up to €100 (26.7 %), up to €120 (21.9 %), up to €150 (11.5 %), and up to €200 (13 %).

It was found that none of the covariates presented showed differences in the independent variable (compensation), although their correlation with the dependent variable was significant in all instances. Moreover, there were no significant differences in the dependent variable based on age, gender, or level of income. Table 5 shows the measurement variables together with the descriptive statistics.

4.4. Analysis and results

To explore what effect the type of sacrifice had on booking intention, an ANCOVA was used. The influence of the three covariates on booking intention was significant. The intention to book a hotel with a sustainability programme is greater when individuals exhibit a positive attitude towards sustainable practices in hotels ($\beta = 0.279$, p = 0.00) and when they see the hotel as projecting an image of being an environmentally

Table 5
Descriptive statistics (Studies 2 and 3).

Variables and measures	Study 2		Study 3	
	Mean	SD	Mean	SD
Intention to book				
I would be willing to book at this hotel with these conditions.	5.93	1.391	5.46	1.453
Attitude towards sustainable hotels				
Staying in a hotel with sustainable practices				
would allow me to protect the environment.	6.07	1.312	5.85	1.297
would allow me to enjoy local products and help the local economy.	6.14	1.219	6.07	1.222
would allow me to be more socially responsible.	6.05	1.209	5.75	1.477
would help me to become involved in environmentally friendly practices.	5.96	1.327	5.89	1.358
Perceived image				
This hotel seems to be environmentally responsible.	5.69	1.318	5.63	1.335
This hotel conveys a good green image.	5.61	1.369	5.65	1.323
With this type of practices, this hotel seeks to protect the environment.	5.46	1.544	5.45	1.493
With this type of practices, this hotel improves the image I would have of it.	5.46	1.429	5.59	1.380

responsible hotel (β = 0.408, p = 0.00). Furthermore, people are more willing to make reservations when their acceptable price is higher (β = 0.004, $p = 0.045$).

As for the impact of the type of sacrifice, this was found to be significant (F (2, 264) = 4.226, $p < 0.05$). The estimated marginal means are presented in Fig. 6. The *t*-test indicates that the intention to book is significantly higher in the scenario of compensated sacrifice when compared to non-compensated sacrifice, be it via price compensation ($p = 0.023$) or through an additional service ($p = 0.007$). There are no significant differences between these two forms of compensation. The results thus support H7, as the perception of a compensated sacrifice increases booking intention when compared to an non-compensated sacrifice, regardless of whether the shared sacrifice is a monetary or service-based compensation.

4.5. Discussion

These findings support H7 and highlight the effectiveness of compensated sacrifice approaches in improving consumer acceptance of sustainable hotel programmes. The lack of significant differences between price and service compensation suggests that the mere presence of a tangible benefit –whether monetary or experiential– is enough to enhance booking intentions. The positive impact of compensated sacrifices on booking intentions can be attributed to the psychological principle of fairness and value exchange. Individuals are more likely to accept sustainability-related changes when they perceive a direct benefit or compensation for their participation. This aligns with previous research which suggests that perceived value and reciprocity play crucial roles in shaping consumer attitudes towards sustainability initiatives.

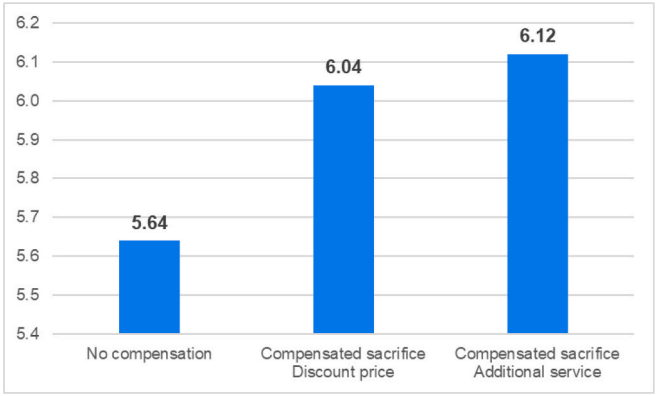

Fig. 6. Estimated marginal means (VD: Booking intention).

Analysis of covariates further reinforces the importance of consumer attitudes and perceptions in driving sustainable behaviours. A positive attitude towards sustainable practices and the perception of the hotel as being environmentally responsible significantly increased booking intentions. Additionally, the correlation between maximum acceptable price and booking intention indicates that consumers with a higher willingness to pay are more likely to support sustainability programmes, highlighting the role of price sensitivity in consumer decision-making. Interestingly, the study found no significant differences in the dependent variable (booking intention) based on demographic factors such as age, gender, or income level. This suggests that the effectiveness of compensated sacrifices transcends demographic boundaries, making it a universally applicable strategy for promoting sustainability in the hospitality sector.

5. Study 3

This final study delves deeper into the interplay between compensation type and pricing in shaping consumers' booking intentions within the context of sustainable hotel practices. Specifically, it seeks to examine how economically driven compensation (e.g., price discounts) compares to socially oriented compensation (e.g., charitable donations to an NGO) in influencing consumer behaviour. Additionally, this study evaluates whether the price level of the hotel moderates these effects, and explores how consumer perceptions and decision-making vary across different pricing scenarios (H8 and H9).

5.1. Design

This study involved an experiment structured with a two-factor design (compensation: 10 % discount vs. donation) x 2 (price: €60 vs. €120). The 10 % discount was designed to offer a tangible yet realistic incentive for consumers to choose more sustainable options, aligning with typical promotional discounts that hotels might offer to encourage bookings. Similarly, the allocation to a donation was included to reflect the growing trend of businesses embedding sustainability into their operations, particularly in the tourism sector, where CSR initiatives are increasingly being valued by consumers. The price points (€60 vs. €120) were chosen to ensure that they were reasonable within the industry whilst allowing for a clear distinction to be drawn between the two hotel categories.

In each scenario, participants were presented with a proposal from a hotel piloting a novel sustainability programme that involved not cleaning the room on a specific day. As regards the manipulation of compensation type, it was suggested that the hotel's financial savings would be redirected to the guest –either as a price reduction or as a charitable contribution. Additionally, as regards price level, one scenario showcased a 3-star hotel priced at €60 for a single room, and the other a 4-star hotel charging €120. The four experimental situations are detailed in the Appendices.

Four survey instruments were developed. In each, one of the four experimental conditions was presented, followed by various queries about the proposed scenario (willingness to book), as well as questions about participants' perception of the hotel and their general assessment of sustainable hotels. The participant pool consisted of 511 individuals randomly distributed among the four experimental conditions. Of the sample, 64.8 % were female, 46.6 % were under the age of 40, and 26.6 % reported having a low income, compared to 73.4 % with a medium or high income. They were further quizzed about their stays over the past 12 months: none (28.7 %), once (26.2 %), between two and four times (34.1 %), more than four times (11 %).

5.2. Manipulation check

To ascertain the differentiation between the experimental conditions, a manipulation check was previously performed with 20 participants. As regards price, participants rated their perception of each price point on a scale of 1 to 10, where 1 represented "I consider it a very low price" and 10 "I consider it a very high price". The mean test for related samples denoted that the difference between the two price tiers was statistically significant at a 95 % confidence level ($M_{€60} = 5.10$; $M_{€120} = 6.30$; $t_{2,19} = 2.125$; $p = 0.047$).

For compensation type, participants were asked to rate on a scale of 1 to 10 the degree to which they felt the offer benefited the user, where 1 indicated "the user receives no direct benefit" and 10 "the user receives substantial benefit." The mean test for related samples showed a significant difference between the conditions (economic-discount and social-donation) ($M_{com\_eco} = 7.30$; $M_{com\_soc} = 5.70$; $t_{2,19} = 2.592$; $p = 0.018$).

5.3. Measurement of variables

Apart from booking intention, the variables measured encompassed perceived sustainability image ($\alpha = 0.868$), attitude towards sustainable hotels ($\alpha = 0.923$), and maximum acceptable price. To measure these variables, indicators from Study 2 were used (Table 4). When it came to the maximum acceptable price, participants were asked about the highest price per person they would be willing to pay (or had already paid) for a sustainable hotel stay: up to €60 (26.4 %), up to €80 (34.8 %), up to €100 (26.5 %), up to €150 (9.4 %), up to €200 (2.7 %), and up to €250 (0.2 %). Again, none of the covariates exhibited significant differences related to the independent variables (price and compensation), although all did show a significant correlation with the dependent variable. Additionally, no significant differences were observed in the independent variable based on participants' age, gender, or income level.

5.4. Analysis and results

To explore the effects of price and compensation type on sustainable hotel booking inclination, a covariance analysis (ANCOVA) was conducted with attitude, perceived image, and maximum acceptable price as covariates. In terms of covariate effects on booking intention, results showed a significant and positive influence for those with a favourable disposition towards sustainable practices ($\beta = 0.330$, $p = 0.00$) and those perceiving a sustainable image ($\beta = 0.687$, $p = 0.00$). However, the impact of the maximum acceptable price was not significant ($\beta = 0.002$, $p = 0.095$). In line with hypothesis H8, the compensation type effect was significant, with booking intention being higher when financial compensation directly favoured the user as opposed to when it served a social cause ($M_{com\_eco} = 5.57$; $M_{com\_soc} = 5.36$; $F(1, 504) = 5.465$; $p < 0.05$). As for the pricing effect, this was not seen to be statistically significant ($M_{com\_eco} = 5.43$; $M_{com\_soc} = 5.49$; $F(1, 504) = 0.449$; $p = 0.503$).

Nonetheless, consistent with hypothesis H9, the interaction between compensation type and price did prove to be significant ($F(1, 504) = 5.922$; $p < 0.05$). As detailed in Fig. 7, when the hotel price is at the lower end, users are indifferent to the form of compensation. However, when presented with a more expensive hotel, booking intention increases when they are financially rewarded for a service sacrifice focused on sustainability.

5.5. Discussion

The findings provide important insights into how compensation type and pricing interact to influence booking intention in sustainable hotels. The study confirms the significance of compensation type (H6), since financial rewards that directly benefit the user –such as price discounts–

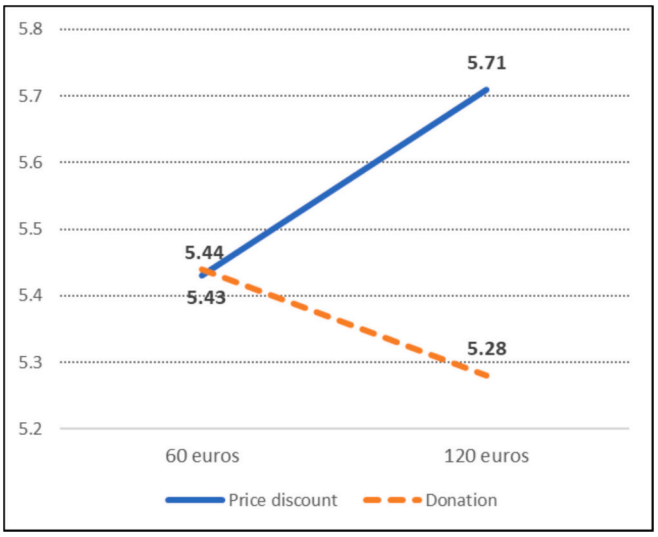

Fig. 7. Interaction between compensation and price (DV: Booking intention).

generate greater booking intention than compensation allocated for a social cause, such as donations to an NGO. This aligns with consumer behaviour literature which suggests that individuals value direct, tangible benefits more highly than indirect or altruistic rewards (Drèze & Nunes, 2011; Kwon, Soman, & Ho, 2011; Ladeira et al., 2024).

Surprisingly, pricing itself did not directly affect booking intention, with no statistically significant difference observed between lower- and higher-priced scenarios. This finding may indicate that sustainability-focused consumers appraise value differently to traditional price-sensitive customers, potentially placing greater weight on emotional benefits and on the perceived ethical impact of their stay.

The interaction effect between price and compensation type (H7) adds a certain nuance to these results. At lower price points, users are indifferent to the form of compensation, which suggests that when the financial commitment is minimal, compensation type becomes less critical to consumer decision-making. In contrast, at higher price points, booking intention increases significantly when compensation takes the form of a direct financial reward. This interaction underscores the importance of matching compensation strategies with the price level in order to maximise consumer engagement.

Finally, the results confirm the relevance of certain consumer characteristics as covariates in determining their intention to book a hotel with environmental initiatives. Specifically, individuals who display a favourable attitude towards sustainable practices and who perceive the hotel as having a strong sustainable image are more likely to book, which is consistent with previous research (Han, Chen, Lho, Kim, & Yu, 2020; Verma et al., 2019). Interestingly, while maximum acceptable price was expected to play a role in booking inclination, it did not yield significant results. This suggests that, for sustainable accommodation, consumers may prioritise non-price-related attributes (economic rationality)), such as the ethical value of their stay or the perceived alignment with their personal beliefs about sustainability. This finding provides evidence for the 'warm glow' effect of doing good, and points to the importance of emotional utility in individuals' pro-social behaviour (Giebelhausen et al., 2016).

6. Conclusion and implications

This article aims to deepen current understanding of the customer decision-making process and of the incentives that influence willingness to sacrifice, willingness to pay a higher price, and booking intentions for hotels with sustainable initiatives. Regardless of the environmental benefit of certain actions, forgoing services may be perceived as an economic benefit to the hotel (e.g. saving costs) –a benefit in which the

customer does not participate. This research shows that an attractive incentive design can lead to higher environmental performance of customers and to a higher attractiveness of the offer. This study offers insights into sustainable consumer behaviour from the perspective of equity theory. We therefore build directly on the findings of Dolnicar et al. (2017) and emphasise the effectiveness of this perspective.

Findings from the first study show that WTP and WTSS in a sustainable hotel are mainly determined by the positive attitude and the personal norm; that is, the consumer's internal predisposition and motivation to be active in the field of sustainable accommodation. Consumers' favourable attitudes towards sustainable hotels and activating personal norms will lead to selflessness in support of green hotels and to an increased WTP. The sense of moral obligation or duty will also encourage individuals to forgo certain comforts and to make greater sacrifices during their stay at these hotels, regardless of whether they are rewarded or not. However, the preference for a compensated sacrifice (WTCS) is greater when individuals are motivated by social or subjective norms and, to a lesser extent, by personal norms. Social norms may encourage individuals to make such sacrifices only if the hotel offers compensatory benefits in return. Further insights suggest that individuals who agree to forgo certain comforts are also willing to pay more for an environmentally friendly hotel –unlike those who demand compensation in return. This aligns with previous findings, such as those by Casado-Díaz et al. (2020), which suggest that tourists might pay a higher price to stay at a water-saving hotel.

The second study aims to evaluate whether proposing a compensated sacrifice –as opposed to a non-compensated sacrifice– influences the intention to book a hotel. To date, the literature has predominantly placed the burden of environmental commitment solely on the guest. Findings in this study reveal that booking intention is higher in scenarios that involve compensated sacrifices, whether through price compensation or additional services. This highlights the importance of designing pro-environmental campaigns that present consumers with proposals in which both parties make some form of sacrifice. Moreover, hotels that are perceived as being actively environmentally responsible boost booking intention, especially among consumers who display favourable attitudes towards sustainable practices. These results align with existing research in the field of hospitality that supports the influence of a hotel's ecological image (Tanford, Kim, & Kim, 2020) in the choice of accommodation as well as the need for a positive attitude towards sustainable practices (Kang et al., 2012).

The third study aims to examine what influence the type of compensation has on booking intention whilst considering the impact of hotel pricing. The effect of economically based compensation is compared to compensation through social benefit. As regards compensation in terms of economic value received, in comparison to other studies which indicate that environmental conservation efforts improve when social aspects are appealed to (Goldstein et al., 2008), our results show that when users receive direct economic benefits, their intention to book is higher than when compensation is linked to social causes. This study ratifies previous works such as Ladeira et al. (2024) that underline the critical influence of immediate gratification in loyalty programmes, illustrating that those timely rewards (in this research, the immediate discount on the reservation) can be a decisive factor in ensuring customer retention in the competitive tourism and hospitality sector.

Nevertheless, the impact of the type of compensation depends on the price of the hotel. When the price of the hotel is low, users are indifferent to the type of compensation, whereas in the case of more expensive hotels, the intention to book increases significantly when users receive direct financial compensation in exchange for giving up a service for the benefit of the environment.

Additionally, the lack of any significant influence of the maximum acceptable price reinforces the importance of emphasising sustainability as a differentiating factor rather than relying solely on competitive pricing strategies. Promoting a strong sustainability image and fostering positive consumer attitudes can play a pivotal role in enhancing booking intentions.

6.1. Theoretical implications

The research makes several contributions to the theory, which are detailed below:

The results of this research directly contribute to the development of sustainable behaviour theory in the field of tourism, and specifically to the study of sustainability in the hospitality sector, where research remains scarce and fragmented. Since hospitality and tourism consumers can play an important role in reducing their environmental impact, researchers have expressed interest in understanding consumers' pro-environmental behaviour in these contexts (Agag, 2019). Specifically, the motivations and incentives that drive willingness to sacrifice, willingness to pay, and booking intentions remain underexplored in quantitative research. These findings thus contribute to a broader understanding of the customer decision-making process and of the mechanisms underlying the responses to sustainable practices in the hospitality sector.

Although many studies have examined willingness to pay from a TPB perspective, this paper extends the TPB framework by proposing a model in which the intention to stay in sustainable hotels is incentivised by encouraging guest participation in the hotel's green programme. Furthermore, based on self-consistency theory, the mediating effect of willingness to sacrifice is added to this extended framework. Whether or not consumer commitment to the environment changes based on perceived reciprocity from the provider has yet to be explored. Our study addresses this gap by introducing the concepts of willingness to selfless sacrifice and willingness to compensated sacrifice, thereby contributing to a deeper understanding of how perceptions of individual versus joint efforts influence pro-environmental intentions.

This study also contributes to the emerging body of research that draws on equity theory to explain sustainable or environmentally friendly behaviour among consumers and other stakeholders (Kline, Hoarau-Heemstra, & Cavaliere, 2023; Zhou, Govindan, & Xie, 2020). In this context, our findings advance current understanding of how a significant hotel contribution to sustainable practices can make a high level of guest sacrifice seem fair. When hotels communicate their commitment to sustainability effectively, guests are more willing to participate in these practices, which in turn enhances the overall appeal of the hotel.

Another contribution of this study lies in its exploration of the compensation or rewards offered to guests to achieve a balance between benefits and costs, thereby encouraging sustainable consumer participation. In the pursuit of equity, financial compensation proves to be more effective, particularly in high-price scenarios. The concept of sacrifice, linked to a willingness to pay a premium, enriches the study of collaboration between businesses and consumers in promoting sustainable practices within the tourism sector.

6.2. Managerial implications

This study offers several practical recommendations for hotel managers who offer sustainable services or who wish to begin implementing pro-environmental programmes as a competitive differentiator. The research results indicate a relationship between guests' willingness to pay for sustainable services and their internal motivation. Hotel marketing communicators should therefore take steps to reinforce guests' pro-environmental beliefs. It is important to appeal to guests' pro-environmental values and to make them aware of the high environmental impact of their behaviours. Our findings suggest that hotels can appeal to guests' pro-environmental values, such as contributing to social causes, conserving natural resources, and reducing waste, by integrating sustainability messages throughout their experience (see Table 6). One effective way to do this is by incorporating sustainability questions into hotel booking forms. In addition, hotels can encourage guests' environmental engagement through gamification and reward

Table 6
Managerial recommendations.

Sustainability messages to appeal to guests' pro-environmental values
Questions in hotel booking forms:
• Would you prefer an eco-friendly room with fewer single-use plastics and energy-efficient appliances?
• Would you be interested in offsetting the carbon footprint of your trip with a small contribution (between €1 and €3)?
• Would you like to receive information on sustainable transport options during your stay (e.g. bicycle rental, electric vehicle charging, public transport)?
• Would you be interested in dining options with organic or locally sourced ingredients?
• Would you like to receive recommendations for eco-friendly tours and activities during your stay?
Questions in loyalty programme registration forms:
• Would you be interested in earning loyalty points for sustainable behaviours during your stay (e.g. reusing towels, reducing the use of plastic)?
Question in exit and post-stay surveys:
• How important is a hotel's environmental commitment when choosing where to stay?
• Did you observe any sustainability initiatives during your stay? If so, which ones?
• To what extent did the hotel's sustainability initiatives influence your overall satisfaction with your stay?
• Did you participate in any of the hotel's sustainability programmes (e.g. towel/sheet reuse, recycling, or sustainable catering)? If so, which programme(s) did you participate in?
• Did the hotel provide sufficient information about its sustainability initiatives? If not, how could we better communicate our sustainability initiatives?
Questions to assess guests' perceptions:
• How credible did you find the hotel's sustainability initiatives?
• Which sustainability actions had the greatest impact on your perception of the hotel?
• How likely are you to recommend this hotel based on its commitment to sustainability?
Questions to assess customer willingness to participate in future sustainable initiatives:
• Would you be interested in staying in a green-certified room in the future, if available?
• If the hotel were to introduce more sustainability-focused experiences (e.g. eco-tours, sustainable dining options), how likely would you be to participate?
Examples of friendly measures that involve a shared sacrifice:
• Optional room cleaning reductions: Instead of automatic daily cleaning, guests can choose to have their room serviced every two or three days, thereby reducing water, electricity, and chemical usage.
• Sustainable dining incentives: Restaurants can offer discounts or perks to guests who select meals made with organic or locally sourced ingredients.
• Plastic-free commitment: Eliminate single-use plastics in rooms and dining areas by replacing bottled water with filtered water stations and by using biodegradable or reusable alternatives.
• Eco-friendly in-room amenities: Provide only essential toiletries in refillable dispensers and allow guests to request additional items as needed.
• Carbon offset stay option: Offer guests the opportunity to contribute a small fee (€1–3) at checkout to offset their carbon footprint, with the hotel matching the contribution.
• Smart climate control systems: Set air conditioning and heating to energy-efficient temperatures, allowing guests to adjust within a limited range so as to balance comfort and sustainability.
• Towel and linen reuse rewards: Encourage guests to reuse towels and linens by offering incentives such as loyalty points, restaurant discounts, or other complimentary services.
• Green transport partnerships: Provide discounts or vouchers for guests who use public transport, rent bicycles, or charge electric vehicles at the hotel.

programmes. For example, loyalty programmes can include eco-challenges, where customers earn points for sustainable choices, such as bringing a reusable water bottle or using digital check-in. It is also advisable to include sustainability-related questions in exit and post-stay surveys in order to assess the impact of these initiatives on guests' evaluation of their experience. For these marketing messages to be effective, it is crucial that clients perceive the establishment's environmental involvement as being genuine and credible. Questions that assess guests' perceptions should also therefore be included.

Finally, it is essential for hotels to be able to measure customer willingness to participate in future sustainable initiatives. In this way, hotels are not only able to strengthen the connection with their guests with regard to environmental values but can also adapt their sustainability strategies to align with their guests' preferences and expectations.

This also implies that establishments with a greater pro-environmental focus should identify consumers who display more favourable attitudes towards sustainability as a priority target and attract them through communication actions that make the hotel's commitment to sustainability and its reputation visible.

Emphasising compensated sacrifice approaches and strategically leveraging compensatory mechanisms can improve customer acceptance, especially when aligned with sustainability values and consumers' policy expectations. To explore the feasibility of identifying these consumers in real-world situations, we propose that hotels use customer surveys and data analytics to profile sustainability-related preferences and behaviours. For example, hotels could include sustainability-related questions in their booking process, loyalty programmes or during exit surveys to capture this data.

The results of our research also have business implications for designing sustainability programmes and effective incentive practice. Hotel managers should not only encourage sustainable behaviour among guests but also differentiate themselves through innovative sustainable initiatives and enhance their brand image as an environmentally responsible company. In this sense, implementing environmentally friendly measures that involve a shared sacrifice -where guests experience a minor adjustment in service and where hotels accept a short-term reduction in profits- can enhance guests' willingness to stay. Some such specific measures are shown in Table 6. By implementing these concrete actions, hotels can foster a balanced approach to sustainability and can thereby encourage guest participation while reinforcing the hotel's commitment to environmental responsibility.

Accommodation companies can reduce customer reluctance to accept reduced comfort in a hedonic environment such as tourism by developing compensated-sacrifice environmental proposals. These proposals can also improve the perception of guests who are more aware of environmental causes. Furthermore, financially rewarding guests who choose greener options during their stay –such as offering discounts or free services– is advisable. In addition to recognising guest involvement and compensating them for any loss of comfort or service quality, these

actions will enhance guests' perceptions of pro-environmental measures and will foster loyalty.

Finally, it is worth noting that the study shows how the effectiveness of incentives is influenced by the price of the room. When designing their sustainable practices, managers will therefore need to consider which of these may be most effective, depending on the establishment's positioning and price level. As concrete measures for managers, we suggest implementing tiered incentive programmes based on the establishment's price. For example, budget hotels could offer modest, sustainable, low-cost incentives -such as discounts for waiving daily room cleaning or for using refillable amenities- while luxury hotels could incorporate higher-value incentives -such as spa discounts or exclusive experiences- that match guests' expectations. In addition, managers should conduct regular evaluations to check the effectiveness of different incentives and should adjust them, based on customer feedback and price sensitivity.

This study underscores the dynamics of consumer willingness to support sustainability in the hospitality sector. For all these reasons, the findings suggest that hoteliers should prioritise initiatives that resonate with individual motivations and personal sacrifices, whilst addressing barriers to financial commitment.

7. Limitations and future research

This work makes meaningful contributions to the literature on sustainable hospitality while laying the groundwork for future research. We acknowledge the importance of the economic dimension, particularly in evaluating the financial performance and business viability of sustainable initiatives, as a valuable avenue for future research. In further studies, the economics of sustainability could be examined and expanded, including the financial implications and profitability for hotel companies who adopt such practices.

This research focuses on the study of behavioural intention, and although previous studies have demonstrated the usefulness of behavioural intention in tourism (Han & Yoon, 2015), consumer behaviour is not always consistent with stated intentions; hence, the results obtained may not represent the actual decisions of individuals in a real context.

Secondly, this research focuses on TPB and the equity theory frameworks, yet fails to consider other antecedents, consequents, and mediators that might provide a more comprehensive understanding of the decision-making processes of sustainable hotel customers. Variables such as perceived risk and prior knowledge can also affect booking intentions in sustainable hotels.

Future research could explore additional forms of compensation and their impact on consumer behaviours and might also examine long-term customer loyalty and satisfaction associated with shared sacrifices. Furthermore, understanding the psychological mechanisms underlying consumer preferences for different types of compensation could provide deeper insights into designing effective sustainability strategies in the hospitality industry.

Finally, this research opens up future opportunities for quasi-experimental studies, with observed measures of changes in host behaviour as the dependent variable and using interventions that are effective in stimulating behaviour change in other contexts, and which may be extrapolated to hotels' sustainable practices.

CRediT authorship contribution statement

Ana Belén Martín-Gago: Writing – review & editing, Writing – original draft, Methodology, Data curation, Conceptualization. **Carmen Camarero:** Writing – review & editing, Methodology, Data curation, Conceptualization. **Marta Laguna-García:** Writing – review & editing, Methodology, Conceptualization.

Declaration of competing interest

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.tmp.2025.101384.

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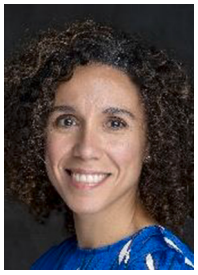

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