



Article

Implications of Value Co-Creation in Green Hotels: The Moderating Effect of Trip Purpose and Generational Cohort

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Abstract: Recently, great interest in value co-creation has been revealed among both academics and practitioners in the hotel sector. However, few studies are analyzing the consequences of co-creation behavior from the customer perspective in "green" (environmentally-friendly) hotels. This study explores the relationships between value co-creation and guest trust, satisfaction, and loyalty in the context of green hotels. Moreover, the role of trip purpose and generational cohort as moderating variables in these relationships is tested. The data are collected through a personal survey from 309 Spanish hotel guests, and the partial least square structural equation model (PLS-SEM) is employed to test the research hypotheses. The results of this study reveal that guest participation in the hotel's process of value co-creation positively affects guests' trust, satisfaction, and loyalty. Additionally, both trust and satisfaction are positively linked with customer loyalty. The findings here also suggest that only customers' age moderates some of the relationships considered (i.e., trust–loyalty and satisfaction–loyalty). To practice, this study provides managerial implications to help hoteliers use value co-creation to develop competitive strategies that will generate more value for tourists due to the positive effects of these strategies on tourist trust, satisfaction, and loyalty.

Keywords: value co-creation; trust; satisfaction; loyalty; environmental-friendly hotels; trip purpose

1. Introduction

At present, rivalry between companies has increased, and the difference between their services has become almost imperceptible to consumers [1]. The opportunities to differentiate their offers are scarce, and more companies now see value for the customer as a key factor when seeking new ways to achieve and maintain competitive advantage [1]. Hospitality professionals should focus on bundles of innovative initiatives, for example, new or improved supporting activities for processes in combination with new methods for service delivery [2]. In this context, value co-creation, which represents the process by which service providers and consumers collaborate to create value [3], becomes more important. In this sense, value co-creation is a concept that has been employed by researchers to describe how clients interact and engage in a dialogue with an organization to design, produce, deliver, and ultimately, consume a product or service [4]. The concept of value co-creation is based on the idea that the main business competencies are no longer in the value chain but rather at the point of interaction between the client and the company where the former is considered a co-creator of value [5].

In the field of tourism services, especially in the hotel industry, "creating superior value for customers is or should be the core objective of any hospitality firm" [6] (p. 51). For this reason, great interest has been aroused in research on value co-creation from the tourist perspective since it provides an important basis for the development of tourism marketing strategies that can be better

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adapted to constant market changes [7]. In this sense, hotels can interact with tourists through the process of value co-creation to design more personalized experiences for their guests [5]. Additionally, tourists not only buy and use new services but also participate in their provision through the co-creation of value [8], obtaining certain benefits such as cost reductions in terms of savings in time and/or money [9].

In the quest to preserve lasting commercial relationships with guests, literature has identified several variables that influence guest loyalty, such as, among others, trust and satisfaction, which are deemed to be determinants in the maintenance of long-term relationships between hotels and their guests [10–14]. In this vein, the value–satisfaction–loyalty chain has been supported by previous research in tourism and hospitality [15]. In addition, several authors highlighted that through the value co-creation process, tourists perceive their collaboration in the creation of their own experience with the service provider as a valuable activity, which is subsequently reflected in their greater satisfaction [16–21], trust [22,23], loyalty to the company [18,21,24,25], and also in their willingness to pay a higher price [26]. Recent research has found evidence in support of the superiority of a model extending the theory of planned behavior in [27], with the addition of the co-creation experience in the lodging industry, and further research is required in the multidimensionality of value co-creation in this context [28].

However, despite the great interest in these constructs among academics and industry professionals, empirical research on their relationships in "green" (or environmentally-friendly) hotels is scarce, and academics call for research on consumers' participation in greening the hotel industry [29]. Green hotels are considered as those that help protect the environment through the implementation of water and energy-saving programs, as well as solid waste reduction initiatives, and that are seen as examples of the trend towards long-term sustainability and success in the lodging industry [30]. Over the past decades, the phenomenon of green customer behavior has raised the attention of researchers and marketers, particularly in the hospitality industry [31–33]. Green activities have a positive impact on corporate image in green hotels, which in turn influences consumers' positive intention to visit green hotels [31]. According to [31], hotel managers may strengthen the belief of guests that they can actively participate in protecting the environment if they stay in green hotels, and the literature calls for further research on how to convert non-ecotourists to ecotourists [34].

Therefore, the main goal of the present study is to verify whether value co-creation is determinant in influencing hotel guest trust, satisfaction, and loyalty in the context of environmentally-friendly hotels.

Although variables such as value co-creation, trust, satisfaction, and loyalty have become top priorities in marketing and tourism research, several authors considered the fact that additional research is needed on how consumer-related characteristics are influencing trust, satisfaction, and loyalty in the same way [35,36]. In this sense, the incorporation of moderating variables may help to enhance knowledge by fostering a more complete understanding of the relationships examined in this study. One of the most relevant moderating variables in the hotel industry is tourists' reason for travel or trip purpose [35,37], which has been applied to the study of guest trust, satisfaction, and loyalty in conventional hotels [38], but to the best of our knowledge, not in green hotels so far. Based on a call for research on how consumer-related features are influencing value co-creation [39], we consider how guests traveling with different purposes (leisure or business) may have different hotel needs and expectations [36]. For this reason, another objective of the present study is to find out whether there are significant differences between guests who travel for leisure and those who travel for business with respect to their degree of participation in the value co-creation process and their relationships with trust, satisfaction, and loyalty, given that to our knowledge, there is still no conclusive literature about such moderation in the context that is presented in this work, i.e., environmentally responsible hotels. Moreover, another moderating variable is consumers' age, which is considered as a strong criterion to explain differences in environmental context [40]. Several studies in the green tourism context have examined the moderating role of age but have produced different findings: While some studies suggested that older tourists have stronger intentions to adopt proenvironmental

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behaviors [40–43], others indicated that younger tourists tend to be more concerned about the environment [44,45]. Thus, we aim to analyze the moderating role of the guests' age in the causal relationships between the aforementioned constructs in four generational cohorts (Gen Z, Gen Y, Gen X, and Baby Boomers). Indeed, to our knowledge, this is the first study to compare the direct effects perceived by four generational cohorts in the chain of structural relationships proposed herein for green hotels. Furthermore, we believe that the results of the present research may help hotel managers better meet their guests' needs.

This study is structured as follows. Firstly, a proposed model is introduced after a thorough literature review of the research constructs. The model includes value co-creation as a multidimensional concept and items related to trust and satisfaction adapted from [11,46], which are two studies carried out in the green context. Subsequently, the study tests the relationships between value co-creation, trust, satisfaction, and loyalty. In addition, the study analyzes the moderating role of the guests' trip purpose and age in the causal relationships between the constructs in order to improve the explanatory power of the study model. The last section of the paper specifies discussions, conclusions, implications, limitations, and future research.

2. Literature Review and Research Hypotheses

2.1. Value Co-Creation

Value co-creation, which has recently acquired great relevance in academic research on value creation [47], has emerged mainly as a result of two aspects: (a) the evolution of the concept of customer participation [48]; and (b) the creation, communication, and delivery of value as the main activities of any company [49].

Different studies, including those carried out by [3,47], reveal a change in marketing philosophy that involves the active participation of clients in the value creation process. In this sense, most academic literature coincides in highlighting the positive influence of consumer participation on the value created in the provision of services [17]. Companies adopt the role of value creation facilitators, and customers feel motivated and willing to be involved in the service [4].

Today's clients are more informed and educated, more selective, and demanding, have greater capacity for choice, and therefore, demand greater value generation by companies [17]. In this respect, the creation of value for clients has become more necessary than ever for the survival of organizations since, through client participation, they are able to obtain end products that are fully adapted to their clients' needs [17]. Furthermore, if clients generate this value themselves, this could foster greater satisfaction and loyalty [50,51]. Consequently, in acknowledging the importance of customer participation in the co-creation of value, companies began to encourage such participation through the introduction of different self-service technologies, online services, and virtual communities [20].

Co-creation as a collaborative process between organizations and customers generates unique value for both internal and external stakeholders of the company [52]. In the field of tourism services, a great interest is emerging in research on value co-creation, and specifically in the integration of co-creation in hotel services [6]. According to [16], tourism companies can achieve two significant sources of competitive advantage by implementing the process of value co-creation: (a) productivity gains through efficiency and (b) gains in the effectiveness of the jointly-created offer.

It was highlighted that tourists acquire a more active role in the development of their experiences if they can decide what to do during a trip, influence other tourists, and choose how to satisfy all aspects of their personality and their needs [19]. Moreover, in the context of hotel services, value co-creation allows guests to engage in interactions with service providers, such as various members of the hotel staff [53]. Through this collaboration, co-creative guests become more aware of the benefits of their participation [54], feel satisfied, and show greater loyalty [16], thus fueling their intention to participate in the co-creative development of new services in the future [54]. Hence, the recognition of tourist power and the importance of adopting a demand-centered approach in value co-creation is the key

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factor that will provide the capacity to positively influence the positional advantage of the organization in the market [18].

In line with the work of [5], this study conceptualizes customer value co-creation behavior as a multidimensional concept consisting of two higher-order factors: (a) customer participation behavior, which comprises four dimensions, i.e., information seeking, information sharing, responsible behavior, and personal interaction; and (b) customer citizenship behavior, which also includes four dimensions, i.e., feedback, advocacy, helping, and tolerance.

2.2. Trust

Trust is an intrinsic and inherent characteristic of any social relationship [55] and is one of the most frequently studied elements in research on relational success [56]. The creation of relationships between buyers and sellers is largely based on the development of confidence in personal interactions [57]. In the context of services, consumer trust in the provider acquires particular importance, as consumers make decisions before really experiencing the service [58]. Thus, the author in [59] (p. 242) stated that "the inherent nature of services positions trust as perhaps the single most powerful relationship marketing tool available to a company".

Literature has shown that consumers are unable to fully experience services before purchasing and consuming them, thus creating uncertainty about the capacity of the services in question to meet their needs [60]. In this respect, their active participation in the value co-creation process during the design and development of a service minimizes this risk and increases their trust in contracting that service [60]. Consequently, value co-creation encourages the growth of trust since when customers co-create, they can communicate their values, objectives, and desires to suppliers through direct participation, which gives them a certain degree of control over the services they receive [23]. Therefore, value co-creation alters the relationship between the user of a service and the service provider, as well as the way in which trust is generated between the two [23], since the concepts of value co-creation and trust are strongly linked [61].

Several studies demonstrated that customer engagement in value co-creation activities has been linked to positive outcomes such as trust, satisfaction, and loyalty [62–64]. From a relationship perspective, there is a link between value co-creation and positive collaborative relationships through positive impact on trust. For instance, the authors in [62] assumed that an enjoyable co-creation experience will cultivate trust in the company that the consumers are interacting with. In the tourism context, the results of [63] show a direct and significant relationship between value co-creation and tourists' trust. The authors in [64] (p. 553) concluded that one of the reasons for co-creation value leading to trust is "because the act of co-creation requires several levels of trust to offset the risks generated by open information exchanges between partners". All in all, the following hypothesis was considered in this work:

Hypothesis H1. *Value co-creation directly and positively influences guest's trust.*

2.3. Satisfaction

Consumer satisfaction in the tourism sector has been one of the most studied variables in academic research [19,65]. Guest satisfaction is related to guests' needs and expectations regarding their previous personal experience with the products and services offered and their prices or with the company's promise [66]. Along the same lines, the authors in [65] argued that hotel experiences are a combination of physical products and services with good service. Consequently, guests are satisfied if they have positive feelings that result from having received outcomes beyond expectations, including the purchase decision and the needs associated with it [67]. It is not surprising, then, that overall guest satisfaction is an increasingly prominent area of interest for both academics and hotel managers [68].

Corporate social responsibility has been appointed as a driver of customer satisfaction, especially when interacting with the firm innovativeness capability. In particular, innovative companies

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are likely to implement "smart" Corporate Social Responsibility (CSR) strategies that are relatively idiosyncratic and thus generate benefits in terms of market value [69]. In this context, consumer participation in the value co-creation process is extremely important, and their interest in and commitment to the process are directly proportional to their participation in value co-creation activities [17]. Moreover, value co-creation affords benefits to both tourists and tourism service providers [19]. In this connection, several authors have highlighted that active consumer participation in the service development process through the co-creation of value improves their satisfaction with the service company [16,18,21]. Based on the foregoing, the following hypothesis was considered:

Hypothesis H2. *Value co-creation directly and positively influences guests' satisfaction.*

Literature has shown that trust and satisfaction are closely related to each other [10,11,14,70,71]. For example, in their studies on restaurant customers, authors in [70,71] demonstrated that trust represents an important antecedent for their satisfaction with the company. Along the same lines, in their studies of hotel guests in Spain, authors in [10,11] also demonstrated empirically that trust is an important factor influencing tourist satisfaction. Accordingly, the following hypothesis was considered:

Hypothesis H3. *Guests' trust directly and positively influences their satisfaction.*

2.4. Loyalty

Loyalty is another construct that has aroused great interest among marketing researchers in relation to consumer behavior, due to its important role in the growth and sustainability of a company [10,12]. In literature, the construct has been evaluated from three perspectives: (a) behavioral, (b) attitudinal, and (c) composed, but most research has focused on the behavioral and attitudinal perspectives [11,13,68,72]. In this study, the construct was approached from the attitudinal perspective, following the line in previous studies in focusing on the first option when choosing a hotel [11,13,72], the sense of attachment to the provider [13,72], and emotional commitment to the company [11,72].

Customer loyalty is a competitive advantage of organizations that is achieved through customer participation in the value co-creation process [24]. Several authors have shown that value co-creation has a positive impact on consumer loyalty [18,21,24,25], since collaborative activities in the value co-creation process in the service context can greatly enhance the value perceived by customers [25]. Based on the foregoing, we proposed the following hypothesis:

Hypothesis H4. *Value co-creation directly and positively influences guests' loyalty.*

The different studies in the literature focusing on the relationship between trust and loyalty coincide in highlighting a significant relationship in which trust positively influences loyalty [10,11,13,14,70,71], given that trust creates exchange relationships that consumers value highly [73]. Within the hotel industry, trust has been identified as a key element for forging strong relationships between guests and hotels [11]. In this connection, recent studies have demonstrated the role of trust in increasing loyalty toward hotel companies [10–14]. Based on the foregoing, the following hypothesis was considered:

Hypothesis H5. *Guests' trust directly and positively influences their loyalty.*

With respect to the relationship between satisfaction and loyalty, various authors have highlighted the relationship between these two constructs, considering satisfaction as a positive determinant of consumer loyalty [74]. In this connection, the authors in [72] reported that a high degree of guest satisfaction will result in a higher degree of loyalty towards the hotel and also make guests less prone to proposals from competitors. However, in the hotel context, different results have been reported with respect to this relationship. Thus, while some authors considered guest satisfaction to result in

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greater loyalty towards the establishment [10,11,14], others like the author in [75] showed that there is no relationship between the satisfaction of tourists and their future behavioral intentions. In summary, in line with previous studies, the following hypothesis was therefore proposed:

Hypothesis H6. Satisfaction directly and positively influences guests' loyalty.

2.5. Trip Purpose

The factors that influence and moderate consumption patterns could be classified into two main categories: consumer characteristics and product/service characteristics [35]. Within the first category, trip purpose is one of the most extensively studied sociodemographic variables in literature on the hotel sector, since guests with different reasons to travel may have different expectations and preferences when selecting a hotel [35]. In literature, a common method for segmenting tourists according to their trip purpose is by dividing them into two groups, namely leisure and business [37]. We also used this segmentation method in our study. Several studies have compared leisure and business guests, reporting different results. While authors such as the ones in [36,76,77] reported significant differences between the two groups, others such as [37,78] concluded otherwise.

According to [79], the decision to-be or not-to-be ecofriendly at a green hotel is explained by primary individual motives, i.e., self-enhancement/self-transcendence. Whereas self-enhancement involves a focus on self-centered gratification and thus a negative appreciation of green attributes, a self-transcendence motive, related to the welfare of others, generates positive perceptions of the hotel green attributes [79], which are expected to generate more trust in the hotel [35]. Moreover, hedonic motivation, which is associated with leisure travelers, has a positive impact on travelers' intention to co-create green value [80], so that we expect guest travelling for leisure to show stronger links between value co-creation and its correlation in our model. The following hypotheses were therefore proposed:

Hypothesis H7. Compared to guests travelling on business, for those travelling for leisure, (1) value co-creation has a greater influence on trust (H7a) and satisfaction (H7b); (2) trust has a greater influence on satisfaction (H7c); (3) value co-creation has a greater influence on loyalty (H7d); (4) trust has a greater influence on loyalty (H7e); and (5) satisfaction has a greater influence on loyalty (H7f).

2.6. Generational Cohort

Generation is defined as a group of people born in a certain time period and exposed to the same social, political, and economic events during their coming-of-age years [81,82]. Four generations are distinguished in social sciences [83]:

- Baby boomers: Born between 1945 and 1964, they are the so-called generation of the baby boom
 and economic boom. Persons of this generation take an increasingly active part in recreational
 activities, are concerned about health, and have a well-established social position and financial
 possibilities [84]
- Generation X: Born between 1965 and 1980, they grew up during the economic crisis of the 1970s. Gen-Xers are flexible, multiculturally oriented, and tend to think globally [85]
- Generation Y: Born between 1981 and 1994, they were brought up in the era of globalization and universal access to the Internet, and are also known as Millennials or Gen Y. This generation is optimistic, open, and oriented towards achieving personal goals in a short period of time [86].
- Generation Z: Born after 1995, they use modern information and communication technology for everything and are also known as Centennials or Gen Z. This generation is practical, more impatient, but more agile than their predecessors, and is continually looking for new challenges [87].

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In the green context, several studies have examined the moderating role of age but have produced inconsistent findings: While some studies suggest that green consumers tend to be older-aged who are more ecologically conscious and have a greater tendency to purchase green products/services [40–43], others indicated that younger consumers tend to be more concerned about the environment and are known to actively adopt green products based on their intrinsic proenvironmental values [44,45]. In the green hotels context, authors in [41,42] have found that older tourists have stronger intentions to adopt proenvironmental behaviors, as well as to pay more for visiting the hotel.

Extensive research efforts have been made to explore values, habits, beliefs, attitudes, and other aspects that distinguish generational cohorts. The joint role of the service provider and customer in the process of value co-creation influences customer satisfaction, loyalty, and trust [16]. In their work, authors in [88] found that the interaction between customers and vendors was a stronger indicator of online trust for the Millennials than for Baby Boomers. The findings of the study of [89] indicate that all generational cohorts experienced higher levels of satisfaction and loyalty after participating in value co-creation interactions with the hospitality service provider. With respect to the relationship between value co-creation and trust, while for Baby Boomers it is significant, for Generation X and Y it is not [89]. The findings by [90] revealed that, in contrast to Generation Y, Baby Boomers consider trust in the service provider an important antecedent in choosing a product/service.

With regard to loyalty behavior, different results have been reported with respect to it. While several authors [91–93] reported that there are significant differences among generational cohorts, the findings of other studies such as [94] did not support the hypothesis regarding the existence of a significant difference between generations in their loyalty behavior. In this sense, the author in [91] indicated that the effects of green satisfaction and green trust on guest loyalty measured through word of mouth intention were higher for Millennials in comparison to the non-Millennials group, whose age is older. In their study, authors in [92] suggested that Generation Y has been labelled as having low levels of brand loyalty as compared to Generation X, while the results of [94] showed that the generation gap between Gen X and Gen Y did not have a moderating role on the relationship between satisfaction and loyalty,

In view of the extant empirical evidence, we believe that relational variables such as trust or loyalty may be less relevant for the younger generations (i.e., Gen Y and Gen Z) in comparison to older generations (i.e., Baby Boomers and Gen X), and although all the generational cohorts might become loyal guests, the antecedents of their loyalty may be different. Thus, the following hypotheses were proposed:

Hypothesis H8. Older generations show stronger links than younger generations for the relations, i.e., (1) value co-creation on trust (H8a) and satisfaction (H8b), (2) trust on satisfaction (H8c), (3) value co-creation on loyalty (H8d), (4) trust on loyalty (H8e), and (5) satisfaction on loyalty (H8f).

The proposed model relating the different constructs is shown in Figure 1.

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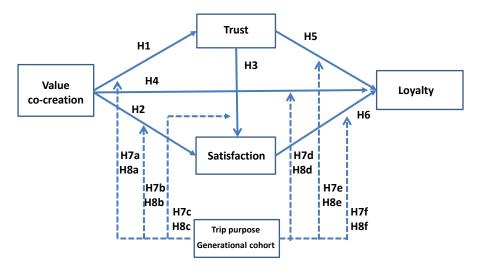


Figure 1. Proposed research model.

3. Methodology

3.1. Data Collection

To test the proposed hypotheses, a quantitative study was carried out through a personal survey of Spanish tourists staying in the city of Valencia at three- and four-star hotel chains that had implemented an innovative management style from the environmental standpoint. In addition, these hotel chains have sustainability certifications, such as Green Key, Green Leaders, Green Globe, and they occupy the first world position in the Corporate Sustainability Assessment for their climate strategy and environmental performance. The data were collected between July and August 2018, through a face-to-face survey conducted in the halls of 11 hotels, obtaining as a final sample 309 valid questionnaires. In this final data set, there are no missing data. To estimate the structural equation models and to test the hypothesis, the partial least square structural equation model (PLS-SEM) was selected among structural equation modeling techniques because (a) the path model includes one formatively measured construct of the third order (value co-creation), and (b) two nonparametric techniques (Henseler's multigroup analysis (MGA) and the permutation test) are appropriate for the multigroup analysis [95]. Further, the size of the sample in the PLS-SEM must be at least ten times the largest number of items of a specific latent variable. In this study, the largest number of indicators in the measurement model was 29 for value co-creation; hence, the sample complied with the minimum size required [96].

3.2. Measurement Development

To measure value co-creation, 29 items were used, grouped into eight first-order factors and two second-order dimensions, and these were adapted from [5]. The items related to trust were adapted from [46]. In terms of satisfaction, three items proposed by [11] were used. Finally, three items were used to measure loyalty based on the work of [72]. All of these items were valued using a 7-point Likert scale (1 = "totally disagree" and 7 = "totally agree"). In this study, a questionnaire was first drafted in English (see Table 1) and then translated into Spanish. The questionnaire was then translated back into English to avoid semantic discrepancies between the two questionnaires. Once the questionnaire had been prepared, to make sure the respondents understood the items considered, a pilot survey was carried out with the participation of 10 guests. As a result of this pretest, the wording of some items was slightly modified for the sake of clarity. Then, the final version of the questionnaire was drafted.

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3.3. Sample Profile

To ensure the sample representativeness, the survey was carried out on both weekdays and weekends, and a quota sampling method was used based on the gender of tourists visiting the Valencian region according to statistics published by Tourist Info [97]. As regards the general profile of the guests, the majority were men (54.4%), and more than half were aged 24–38 (32.7%) and 38–58 (32.4%). In terms of their qualifications, 63.1% had university degrees. As regards employment, the majority (52.1%) were employees. Moreover, 79.6% of the respondents stated that they had visited the hotel for leisure.

4. Results

Firstly, to examine the normality of the data, the skewness value was adopted. Since the Z-skewness value in the study variables did not exceed ± 2.58 or ± 1.96 , the distribution was normal [98]. Next, the analysis of the results obtained was divided into two phases. Firstly, an exploratory factor analysis was performed using the SPSS program to analyze the possible dimensions of value co-creation. Secondly, the instrument was validated through a confirmatory factor analysis, and the structural model was estimated by means of partial least squares (PLS) using the Smart PLS 3 software.

4.1. Exploratory Factor Analysis

To determine whether the dimensions used in this study to measure value co-creation were the same as those considered in previous studies, an exploratory factor analysis with VARIMAX rotation was performed to determine which items each dimension should measure and whether the items were grouped as initially proposed. As a result, a Kaiser-Meyer-Olkin (KMO) value of 0.898 was obtained. For the Bartlett's test of sphericity, an approximate Chi-square value of 12.743,475 (p value: 0.000) was obtained, thus validating the data matrix for continuation with the factor analysis process. In view of the matrix of rotated coefficients, two items were eliminated since their weights were less than 0.5 [99]. Therefore, the final value co-creation construct was divided into eight first-order dimensions of the original scale: information seeking, information sharing, responsible behavior, personal interaction, feedback, advocacy, helping, and tolerance.

4.2. Confirmatory Factor Analysis

After this initial exploratory phase, the results were subjected to a confirmatory factor analysis. To analyze the reliability of first-order reflective constructs (see Table 1), the internal consistency criterion, using Cronbach's alpha coefficient, and the composite reliability measure were used. In terms of convergent validity, all the loadings were significant and greater than 0.7, and the average variance extracted (AVE) value of each variable was greater than 0.5, thus providing evidence of adequate convergent validity in the measurement model.

For the value co-creation variable, since its second- and third-order dimensions were defined as formative constructs, they were evaluated at indicator level by assessing possible multicollinearity through the variance inflation factor (VIF) and the assessment of the magnitude of their weights and their significance. The results are shown in Table 2.

In terms of discriminant validity, as shown in Table 3, all the square roots of the AVE of each construct were greater than the highest correlation with any other construct in the model, thus complying with the criterion in [100].

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Table 1. Measurement model evaluation results.

Constructs/Indicators	Mean	St.dev.	Skew	Kurtosis	Loading
Information seeking ($\alpha = 0.680$; CR =	0.860; A	VE = 0.75	5)		
have asked others for information on what this service offers	5.01	1.41	-0.85	0.18	0.903 *
have searched for information on where this service is located	5.74	1.04	-1.04	2.34	0.833 *
Information sharing ($\alpha = 0.852$; CR =	0.905; A	VE = 0.76	1)		
clearly explained what I wanted the employee to do	5.55	1.11	-0.49	-0.53	0.836 *
gave the employee proper information	5.31	1.15	-0.35	-0.68	0.916 *
provided necessary information so that the employee could					
perform his or her duties	5.51	1.11	-0.46	-0.49	0.864 *
Responsible behavior ($\alpha = 0.908$; CR =	= 0.936; <i>A</i>	AVE = 0.78	35)		
performed all the tasks that are required	5.54	0.95	-0.06	-0.79	0.870 *
adequately completed all the expected behaviors	5.64	0.99	-0.34	-0.51	0.903 *
fulfilled responsibilities to the business	5.71	0.95	-0.37	-0.46	0.895 *
followed the employee's directives or orders	5.88	0.84	-0.36	-0.17	0.874 *
Personal interaction ($\alpha = 0.934$; CR =				0.17	0.07 1
was friendly to the employee	5.87	0.97	-0.75	0.19	0.868 *
was kind to the employee	5.91	0.94	-0.64	-0.21	0.912 *
was polite to the employee	5.85	0.94	-0.66	0.21	0.912
was pointe to the employee was courteous to the employee	5.94	0.94	-0.53	0.21	0.899 *
did not act rudely to the employee	5.88	0.95	-0.82	0.77	0.869 *
Feedback ($\alpha = 0.778$; CR = 0.868;	; AVE =	0.695)			
f I have a useful idea on how to improve the service, I let the	5.00	1.27	-0.19	-0.81	0.924 *
mployee know		4.04		0.54	
When I receive good service from the employee, I comment about it	5.06	1.21	-0.21	-0.76	0.936 *
Vhen I experience a problem, I let the employee know about it	5.82	1.03	-0.86	0.19	0.696 *
Advocacy ($\alpha = 0.902$; CR = 0.939;	; AVE =	0.836)			
said positive things about this hotel and about the employee	5.06	0.98	-0.08	-0.45	0.887 *
others	5.00	0.70	0.00	0.15	0.007
recommended this hotel and the employee to others	4.99	1.03	-0.03	-0.59	0.938 3
encouraged friends and relatives to use this hotel	4.94	1.06	-0.11	-0.48	0.918 *
Helping ($\alpha = 0.908$; CR = 0.935;	AVE = 0	0.784)			
assist other customers if they need my help	4.52	1.10	-0.07	-0.38	0.874 3
help other customers if they seem to have problems	4.41	1.12	-0.08	-0.68	0.908
teach other customers to use the service correctly	4.34	1.11	0.26	-0.54	0.859 3
give advice to other customers	4.26	1.26	0.18	-0.66	0.899 3
Tolerance ($\alpha = 0.967$; CR = 0.978;	: AVE =	0.937)			
f service is not delivered as expected, I would be willing to put up		,			
vith it	4.46	1.31	-0.5	-0.26	0.964 *
f the employee makes a mistake during service delivery, I would be					
villing to be patient	4.54	1.34	-0.42	-0.13	0.975 *
f I have to wait longer than I normally expected to receive the					
ervice, I would be willing to adapt	4.43	1.31	-0.47	-0.35	0.966 *
Trust ($\alpha = 0.913$; CR = 0.941; A	WE - 0.	771)			
feel that this brand's environmental commitments are	VE - 0.	771)			
generally reliable	4.60	1.16	-0.03	-0.76	0.958 *
feel that this brand's environmental performance is	4.56	1.09	-0.09	-0.53	0.959 *
enerally dependable					
feel that this brand's environmental argument is	4.57	1.11	-0.02	-0.52	0.965 3
enerally trustworthy			0.04		
'his brand's environmental concern meets my expectations	4.44	1.07	0.01	-0.73	0.938 *
his brand keeps promises and commitments for	4.69	3.18	0.35	0.38	0.754 '
nvironmental protection			0.00	0.00	
Satisfaction ($\alpha = 0.959$; CR = 0.973	3; AVE =	= 0.924)			
he choice of this hotel company due to its environmental	4.55	1.20	-0.38	-0.34	0.955 ,
ommitment makes me happy	1.00	1.20	0.50	0.04	0.755
consider it correct that I remain with this hotel company because	4.59	1.10	-0.57	0.09	0.960 *
consider it correct that I remain with this noter company because	4.39	1.10	-0.37	0.09	0.900
				0.00	0.969 *
f its environmental commitment	4 57	1.15	0.40		
f its environmental commitment am satisfied with this hotel company because of its	4.57	1.15	-0.49	-0.02	0.707
f its environmental commitment am satisfied with this hotel company because of its			-0.49	-0.02	0.505
If its environmental commitment am satisfied with this hotel company because of its environmental performance $ \textbf{Loyalty} \; (\alpha = 0.918; CR = 0.948; A = 0.948; A = 0.948; CR = 0.948; A =$			-0.49 0.06	-0.02 -0.59	
of its environmental commitment am satisfied with this hotel company because of its environmental performance	AVE = 0).859)			0.923 * 0.934 *

A = Cronbach's alpha; CR = Composite reliability; AVE = Average variance extracted; * p < 0.01.

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Weight	VIF	t	p Value
Second order			
0.578	1.128	4.221	0.000
0.041	1.224	5.298	0.000
0.379	2.087	4.808	0.000
0.312	2.164	5.559	0.000
0.128	1.601	4.674	0.000
0.591	1.971	6.528	0.000
0.094	1.845	5.062	0.000
0.409	1.474	4.689	0.000
Third order			
0.236	1.227	2.903	0.004
0.876	1.227	6.326	0.000
	Second order 0.578 0.041 0.379 0.312 0.128 0.591 0.094 0.409 Third order 0.236	Second order 0.578 1.128 0.041 1.224 0.379 2.087 0.312 2.164 0.128 1.601 0.591 1.971 0.094 1.845 0.409 1.474 Third order 0.236 1.227	Second order 0.578 1.128 4.221 0.041 1.224 5.298 0.379 2.087 4.808 0.312 2.164 5.559 0.128 1.601 4.674 0.591 1.971 6.528 0.094 1.845 5.062 0.409 1.474 4.689 Third order 0.236 1.227 2.903

Table 2. Measurement model of second- and third-order construct.

Table 3. Fornell–Larcker discriminant validity criteria.

Value	Value Co-Creation	Trust	Satisfaction	Loyalty
Value co-creation	NA			
Trust	0.558	0.878		
Satisfaction	0.573	0.708	0.961	
Loyalty	0.394	0.604	0.611	0.927

Additionally, for the heterotrait-monotrait (HTMT) ratio, which consisted of analyzing whether the monotrait-heteromethod (MTHM) correlations (relationships between indicators of the same construct) were greater than the heterotrait-heteromethod (HTHM) correlations (relationships between indicators that measure different constructs), it was concluded that discriminant validity existed since its value was less than 0.9 [101], thus confirming the discriminant validity of the reflective constructs of the measurement model (i.e., trust, satisfaction, and loyalty).

4.3. Structural Model and Hypotheses Testing

Once the psychometric properties of the measuring instrument had been checked, the standardized path coefficients (β) were estimated using the bootstrapping technique [102] with 5000 subsamples. As shown in Table 4, the path coefficients were significant in all cases and in the indicated sense; therefore, all hypotheses planted in the model were accepted.

Table 4. Structural model results.

Hypothesis	Original Sample	t	p Value
H1: Value co-creation–trust	0.558	15.389	0.000
H2: Value co-creation-satisfaction	0.258	5.581	0.000
H3: Trust-satisfaction	0.564	11.256	0.000
H4: Value co-creation-loyalty	0.240	3.182	0.001
H5: Trust–loyalty	0.347	4.719	0.001
H6: Satisfaction-loyalty	0.373	5.397	0.000

 R^2 (Trust) = 0.312; R^2 (Satisfaction) = 0.548; R^2 (Loyalty) = 0.432; Q^2 (Trust) = 0.229; Q^2 (Satisfaction) = 0.488; Q^2 (Loyalty) = 0.355.

4.4. Group Difference Testing

After verifying the relationships considered in the causal model, we set about determining whether there were any statistically significant differences in the aforementioned relationships according to trip purpose. For this purpose, since SmartPLS was used for the structural equation model, before performing the multigroup analysis (MGA) between two groups, we applied the three-step

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MICOM (measurement invariance of composite models) procedure to analyze the invariance of composite models [95]. MICOM is a three-step process involving (a) a configural invariance assessment, (b) the establishment of compositional invariance assessment, and (c) an assessment of equal means and variances. In accordance with the MICOM procedure, total measurement invariance was established (see Table 5), which is a prerequisite for comparing and interpreting the differences between two groups by an MGA based on the PLS-SEM results [95].

Complements	Conf.	Compositional Conf.		raruai		Equal Mean Assessment		al Variance sessment	Full	
Constructs	Invar	C = 1	5%	Invar. Estab.	Diff.	Confidence Interval	Diff.	Confidence Interval	Measur. Invar Estab	
Value co-creation	Yes	0.979	0.918	Yes	0.153	(-0.280; 0.278)	0.037	(-0.444; 0.580)	Yes	
Trust	Yes	0.992	0.988	Yes	0.021	(-0.311; 0.287)	0.307	(-0.292; 0.375)	Yes	
Satisfaction	Yes	1.000	1.000	Yes	0.189	(-0.293; 0.308)	0.298	(-0.367; 0.479)	Yes	
Loyalty	Yes	1.000	0.999	Yes	0.217	(-0.276; 0.292)	0.011	(-0.295; 0.367)	Yes	

Table 5. Results of invariance measurement testing using permutation.

After completion of the MICOM procedure, the results of the two methods used were reported to demonstrate the significance of the difference between the path coefficients obtained in the subsample analysis (the MGA and the permutation test) (see Table 6). The MGA directly compares bootstrap estimates specific to a group of each sample. According to this method, a *p*-value of the differences between the coefficients of less than 0.05 or greater than 0.95 indicates significant differences at a 5% level of significance between the coefficients across two groups [103]. The permutation test also returns a *p*-value, with the differences only being significant when this value is less than 0.05.

Hypothesis	Path Coefficient	p Value I	- Supported	
11y potitesis	Difference	Henseler's MGA	Permutation Test	- Supported
H7a: Value co-creation–trust	0.036	0.653	0.730	No/No
H7b: Value co-creation-satisfaction	0.244	0.936	0.056	No/No
H7c: Trust-satisfaction	0.121	0.104	0.354	No/No
H7d: Value co-creation-loyalty	0.181	0.109	0.271	No/No
H7e: Trust–loyalty	0.002	0.495	0.992	No/No
H7f: Satisfaction-loyalty	0.123	0.762	0.496	No/No

Table 6. Results of multigroup analysis (leisure versus business guests).

The results obtained revealed no significant differences between guests travelling for leisure and business in terms of the intensity of the relationships between value co-creation and their trust, satisfaction, and loyalty. This evidence is consistent with that reported in previous studies insofar as no differences were observed between tourists based on their reason for travel [37].

In addition, we proceeded to assess whether there are significant differences between guests based on their age, grouping respondents by generational cohort, with respect to the hypotheses of our model. Table 7 shows the results of the structural model assessment in each of the subgroups using 5000 bootstrap resamples. With regard to H8a and H8c, the results show that, regardless of guest age, the guest's participation in the value co-creation process positively influences their degree of trust with the hotel, which in turn positively influences their satisfaction with it. This shows that all guests positively appreciate the fact of being able to share their wishes, needs, and experiences through the co-creation of value, which in turn increases their trust and satisfaction with the hotel. The effect of value co-creation on guest satisfaction (H8b) was confirmed only in three generational cohorts, i.e., Generations Z and Y, and Baby Boomers, thus giving support to the view that the greater

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the participation of tourists in the value co-creation process, the higher their satisfaction with the hotel. H8d, H8e, and H8f, which link value co-creation, trust, and satisfaction with loyalty, respectively, were supported only in the two older generational cohorts, i.e., Generation X and Baby Boomers.

Hypothesis	Gen Z (N = 58)	Gen Y (N = 101)	Gen X (N = 100)	Boomers (N = 50)
H8a: Value co-creation–trust	0.657 *	0.673 *	0.608 *	0.689 *
H8b: Value co-creation-satisfaction	0.375 *	0.329 *	0.185	0.307 *
H8c: Trust–satisfaction	0.588 *	0.597 *	0.432 *	0.396 *
H8d: Value co-creation-loyalty	0.180	0.165	0.350 *	0.247 *
H8e: Trust-lovalty	0.063	-0.064	0 444 *	0.702 *

Table 7. Path coefficients in the four generational cohorts.

0.057

0.515 *

0.463 *

H8f: Satisfaction–loyalty

Finally, the outcomes of Table 8 demonstrate that only the hypotheses H8e and H8f are accepted (p < 0.05). In this sense, the moderating role of tourist age is evident in the case of the links between guest trust and loyalty and between guest satisfaction and loyalty, being stronger for older guests. Specifically, these relationships are stronger for Baby Boomers and Generation X compared to those for Generations Z and Y. Therefore, the hypotheses H8a, H8b, H8c, and H8d adopted for this study cannot be supported by the results obtained. From this, it is conclusively established that generational cohort is a significant moderator that has a significant impact on the relationships between trust and satisfaction with loyalty.

Table 8. Results of multigroup	analysis	(generational	cohorts).
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	<i>p</i> -Values for Differences between											
Н	Gen Y-	-Gen Z	Gen X-	-Gen Z	Boom-	Gen Z	Gen X-	-Gen Y	Boom-	Gen Y	Boom-	Gen X
	MGA	Per.	MGA	Per.	MGA	Per.	MGA	Per.	MGA	Per.	MGA	Per.
H8a	0.565	0.817	0.413	0.315	0.589	0.238	0.430	0.452	0.830	0.864	0.386	0.444
H8b	0.498	0.856	0.289	0.201	0.557	0.157	0.213	0.118	0.910	0.871	0.487	0.497
H8c	0.714	0.757	0.176	0.217	0.124	0.117	0.176	0.176	0.225	0.142	0.850	0.851
H8d	0.547	0.796	0.193	0.339	0.135	0.259	0.421	0.383	0.209	0.244	0.641	0.648
H8e	0.589	0.895	0.035	0.010	0.001	0.001	0.023	0.012	0.001	0.007	0.144	0.187
H8f	0.632	0.904	0.023	0.005	0.038	0.007	0.047	0.016	0.027	0.043	0.789	0.800

Note: Bold: p < 0.05. Gen Z = Generation Z; Gen Y = Generation Y; Gen Z = Generation Z; Boom = Baby Boomers.

For the sake of clarity, Table 9 summarizes the results of the analyses conducted on the moderation effects.

Table 9. Results of the moderation effects.

Н	Leisure >	Gen Y >	Gen X >	Boom >	Gen X >	Boom >	Boom >
	Business	Gen Z	Gen Z	Gen Z	Gen Y	Gen Y	Gen X
H7/8a	Not supported						
H7/8b	Not						
	supported						
H7/8c	Not supported						

^{0.056} * p < 0.01. Note: Gen Z = Generation Z; Gen Y = Generation Y; Gen Z = Generation Z; Boomers = Baby Boomers.

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Н	Leisure > Business	Gen Y > Gen Z	Gen X > Gen Z	Boom > Gen Z	Gen X > Gen Y	Boom > Gen Y	Boom > Gen X
H7/8d	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported
H7/8e	Not supported	Not supported	Supported	Supported	Supported	Supported	Not supported
H7/8f	Not supported	Not supported	Supported	Supported	Supported	Supported	Not supported

Table 9. Cont.

Note: Gen Z = Generation Z; Gen Y = Generation Y; Gen Z = Generation Z; Boom = Baby Boomers.

5. Discussion

The literature recognizes the need to explore the consequences of consumer participation in the value co-creation process, especially in the hospitality and tourism context where the literature on co-creation is still in its infancy [8]. To answer this call for future research on co-creation, the present study provides statistical support to demonstrate how value co-creation helps boost guests' trust, satisfaction, and loyalty with regard to environmentally-friendly hotels. In this sense, the main contribution of our study is that although previous empirical studies have analyzed the relationships proposed in our model, to the best of our knowledge, no work has analyzed the relationships between them in the context of green hotels. In this sense, our investigation goes beyond those studies by observing the influence of value co-creation on guest trust, satisfaction, and loyalty in green hotels. In other words, our results support the importance of encouraging tourists to participate in the value co-creation process, in order to add value to their experience of staying at the establishment, thus increasing their level of trust, satisfaction, and loyalty towards the hotel. Another way to contribute to the advancement of research in the green hotel context is to consider the individual demographic and psychographic factors [39], such as trip purpose and guests' age (i.e., generational cohort) as moderating rather than driving forces in participating in the process of value co-creation and in the formation of trust and behaviors among tourists.

In this sense, firstly, the results obtained demonstrate that (a) there exists a positive and significant relationship between value co-creation and trust, as has been reported elsewhere [23,61]; (b) value co-creation positively influences guest satisfaction and that these results are in line with those reported in previous studies, such as those of [16,18]; and (c) tourist participation in the value co-creation process exerts a positive and significant influence on their loyalty towards the hotel, thus confirming the results described by other authors [18,24,25].

Secondly, this paper investigated the role of guest trust and satisfaction as an antecedent of their degree of loyalty. In this sense, in line with other studies in the hotel context [10–14], our results show that trust and satisfaction are important factors for increasing the level of guest loyalty. The results obtained also suggest that tourist satisfaction with ecofriendly hotels is significantly influenced by their trust in such establishments, thus confirming the conclusions of [10,11].

Thirdly, this study contributes to the body of literature in hospitality and specifically in the green hotel sector by demonstrating that travel purpose does not seem to play a significant moderating role in the relationships between value co-creation, trust, and satisfaction with respect to loyalty. This result is aligned with [38], who did not find support to the moderating role of travel purpose on the relationship between self/other-oriented values and trust.

Finally, the research model was estimated for Baby Boomers, Generations X, Y, and Z with structural equation modelling (PLS-SEM) by using a multigroup analysis The findings of the study indicate that all generational groups experienced higher levels of trust after participating in value co-creation interactions, which increase their confidence level with the hospitality service provider. On the other hand, the relationship between value co-creation and loyalty is significant only for Generation X and Baby Boomers. Further, our results indicate that the relationship between value

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co-creation and satisfaction is stronger for Baby Boomers and Generations Y and Z, but not for Generation X. Guests' generational cohort only had a moderating effect on the relationship between trust satisfaction and loyalty, being stronger for Baby Boomers and Generation X compared to the Generations Z and Y, respectively. In accordance with H8e and H8f, the association between trust and satisfaction and loyalty was more evident in the case of older tourists, which can be partly explained by their more conservative nature and their knowledge about the negative consequences of the daily activities carried out by hotels [41,42]. These results are in line with those reported in previous studies which concluded that older consumers have a more positive attitude and intention toward green purchase behavior [40–43]. Contrary to H8a, H8b, H8c, and H8d, no moderation effect caused by tourist generational cohort was observed on the association between value co-creation and trust, satisfaction, and loyalty.

6. Conclusions, Implications, Limitations, and Future Research

With increasing competitiveness among companies, it is important to understand the mechanisms of value co-creation and how they influence the behavior and perceptions of different generational groups. This study confirmed that the participation of tourists in the value co-creation process is essential to increase their degree of trust, satisfaction, and loyalty with green hotels. Specifically, in the green hotel context, it is essential to know the characteristics of the different customer segments and, based on this, develop strategies to encourage their participation in the value co-creation process. This study examined various consequences of the value co-creation process and provided information for hotels managers to co-create value with their guests, specifically the consequences for four generational groups, i.e., Baby Boomers, Generations X, Y, and Z.

This study suggests important implications for both hospitality marketing theory and application. From a theoretical standpoint, although previous studies have acknowledged consumer participation in the co-creation process as a successful strategy for differentiation with respect to competitors [104], empirical research in the tourism context on the consequences of involving tourists as value co-creators is limited [19]. In these sense, firstly, the present study validates the value co-creation scale of the work by [5], which was developed in a multiservice context, and the multidimensionality of this construct in the same way as these authors, in the context of green hotels. Secondly, the proposed model includes not only certain variables as consequences of value co-creation, but it also shows the existence of significant differences in some of the relationships between these constructs as a function of the guest generational cohort, thus enabling a better understanding of how customers build their loyalty towards a hotel. In this sense, the present study shows that a greater behavior of guests as co-creators of value can lead to a greater degree of satisfaction and loyalty towards the hotel. Consequently, this study suggests that value co-creation has the potential to generate positive results for both guests and hotels. Third, the findings point to opportunities to engage all generations in value co-creation activities and to customize value co-creation activities based on generational groups.

From a managerial standpoint, in a time of strong competition for hotels such as the present and with the need for establishments to differentiate themselves from their competitors, value co-creation would seem to be a useful tool for achieving this differentiation. Our study provides hotel managers with knowledge to better plan the involvement of resources in the implementation of strategies geared toward co-creating value with their guests. Therefore, hotels can use value co-creation to develop competitive strategies that will generate more value for tourists and will be difficult for their competitors to mimic.

Through constant interaction with customers, hotels can stimulate and improve their participation by increasing their level of trust, satisfaction, and loyalty. In other words, the active participation of guests in the value co-creation process allows them to establish relationships with other clients, share their experiences, or help other tourists to make decisions, thus contributing to the creation of value. In addition, managers should carefully segment tourists according to their sociodemographic characteristics and pay particular attention to older tourists because they are more sensitive to

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environmental matters. In this respect, by understanding that the co-creation of value by the hotel and its employees leads to guest loyalty, hotel managers can formulate better value co-creation strategies. The Generation X and Baby Boomers in this work displayed stronger loyalty through the participation in value co-creation than Generations Z and Y. Along this line, hotels managers should make an effort to establish strong relationships with Generations Z and Y before inviting them to participate in value co-creation activities.

However, this research is not free of limitations, which can be considered as potential future lines of research. Firstly, due to the limited geographical scope of the study, the sample should be expanded to include other regions of Spain and other countries. Secondly, it would be worthwhile trying to determine whether the type of lodging influences tourists' perceptions. To do so, it would be interesting to replicate the study in other types of tourist establishments, such as hostels or campsites. Moreover, corporate social responsibility actions do not always improve customer attitudes, since some consumers tend to suspect that a firm's prices include a markup to finance the CSR engagement [105]. In this sense, further research may assess whether value co-creation activities might change these customers' CSR attributions. Finally, a noteworthy opportunity exists to further research based on the introduction of other relevant variables in the model, such as hotel image, commitment, or prior experience with environmentally-friendly hotels.

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