



A Study on Evaluating the Satisfaction Level of Consumers with Eco-Friendly Practices Exercised in 5-Star Category Hotels of Delhi-NCR

Neetesh Bakshi^{1*}, Dr. Ajit Kumar Singh²

¹ Research Scholar, Chandigarh University, Punjab, India

² Professor, Chandigarh University, Punjab, India

*Corresponding author: neetesh.bakshi@gmail.com

Abstract. The study's goal was to evaluate how satisfied customers were with the eco-friendly measures taken by Delhi NCR's five-star hotels. In August 2023, a structured questionnaire was created, and information was gathered from participants. Objective-related questions were posed using a 5-point Likert scale. The data was gathered using the convenience sampling method. The study's primary goal was to determine how satisfied customers were with the eco-friendly measures taken by five-star hotels. The study's three objectives are all met through the application of the central tendency technique. The findings of the first objective revealed that top 6 most satisfactory eco-friendly practices in the order of their ranking are adoption of ecologically friendly products followed by room's natural ventilation, adoption of biodegradable products, Hotels that donate money or in-kind to environmental NGOs, hotel room has insulated pipes and solar geysers and usage of natural flora and landscaping techniques in public spaces. The present research has also revealed findings related to male and female consumers satisfaction level with eco-friendly practices exercised by 5-star category hotels. The present research has also revealed the findings related to single and married consumers satisfaction level with environmental practices exercised by 5-star category hotels.

Keywords: Eco-Friendly Hotels, Eco-Friendly Practices, Consumers Satisfaction Level

1 Introduction

The environment is safeguarded in many ways by several technological sectors in the modern world, including social media [1], online education [2] and websites [3] and using less natural resources as a result of these technical advancements. In both developed and developing nations, tourism has been one of the most significant and quickly growing sectors for job creation, poverty alleviation, regional development, and the preservation of historical and cultural assets. It is simpler to satisfy customer requests because of the close linkages that exist between the tourism, hotel, and hospitality businesses. In 2019, the tourism sector contributed 10.5% of the world GDP, 330 million jobs, and 3.5% growth [4]. 21% of all carbon emissions linked to tourism are attributable to the hotel sector, according to the United Nations Environment Program (UNEP) and the World Tourism Organization (UNWTO) [5]. Concerns over the preservation of natural resources are raised by this. 10.4% of the global GDP comes from the tourist sector, which also significantly contributes to global economic growth. The trillion-dollar tourism sector employs more than 10% of the workforce and accounts for 7% of all exports to other countries [6]. Tourism contributes around 8% of global greenhouse gas emissions, a significant detrimental influence on the environment. As a result of greenhouse gas (GHG) emissions, the yearly worldwide carbon footprint of tourism grew, growing from 3.9 billion metric tons of CO₂ equivalent in 2009 to 4.5 billion metric tons of CO₂ equivalent in 2013 [7,8]. Both the economy and the ecology suffered as a result. Apart from consuming 466 liters on average [5].

The United Nations Conference on Environment and Development emphasized the significance of putting into practice visible eco-friendly initiatives in 1992, such as solar panels and aerating shower faucets, to assist hotels in attracting guests, reducing adverse environmental effects, saving money, and setting an example for social revolution by going green [9]. A Memorandum of Understanding between the Ministry of Tourism and the Eco Tourism Society of India (ESOI) aims to improve stakeholders'

© The Author(s) 2024

M. Sharma et al. (eds.), *Proceedings of the International Conference on Innovation and Regenerative Trends in Tourism and Hospitality Industry (IRTTHI 2024)*, Advances in Economics, Business and Management Research 285,

https://doi.org/10.2991/978-94-6463-437-2_30

understanding of sustainability and shared responsibility. The Government of India's Ministry of Tourism has provided support to ESOI, which has organized workshops and awareness campaigns on this subject. Eminent representatives from the tourism sector, the government, environmentalists, and conservationists formed this committee in 2008 at the request of the Ministry of Tourism [10]. It has been emphasized that because the hotel industry uses natural resources and generates trash, it has a major detrimental effect on the environment. Over the last ten years, this industry has experienced remarkable expansion. The hotel sector has little choice but to focus on and adopt environmentally friendly practices in order to compete in the modern market. Customers generally prioritized physical amenities like swimming pools and health clubs over hotels' environmental efforts. To fulfil demand, customers need to be taught how to utilise resources sensibly, and hotels need to implement environmental safeguards to meet the growing demand for environmentally friendly, sustainable practices.

Morgan et al. [11] state that one of the most crucial components of marketing and research is customer satisfaction. Analyzing customer attitudes and behavior is considered a crucial component for firms that prioritize their customers and want to obtain a competitive advantage. Customer satisfaction could be raised by providing green characteristics in addition to essential aspects that are consistently met [12, 13]. The importance of the relationship between green practices and satisfaction in the context of the hotel sector has been investigated and confirmed by researchers [14, 15, 16, 17, 18]. Others, however, discover that the correlation between customer pleasure and service quality is diminished by eco-friendly features [19].

According to Prudhomme and Raymond [16], some hotel guests display a high level of environmental consciousness during their stay. These guests have high expectations for the hotel's eco-friendly goods and services. Customers' demand for green services at hotels have increased as their understanding of environmental issues has increased. Because of this, consumer contentment with their eco-friendly purchases takes precedence above environmental knowledge. Martinez [20] asserts that in the case of green hotels, if the hotel's green image encourages guests to engage in pro-green activities, it will have a favorable impact on patron loyalty, trust, retention, and intent to return. The present research is also focusing on the impact of eco-friendly practices followed in hotels on consumers purchase decision with the title "A study on evaluating the satisfaction level of consumers with eco-friendly practices exercised in 5-star category hotels of Delhi-NCR". This study is distinctive since no comprehensive research on eco-friendly hotel practices or research linking eco-friendly hotel practices in Delhi and the National Capital Region to five-star hotels has been found.

2 Literature Review

2.1 Concept of Eco-Friendly Hotels

Hotels are required to implement green practices in response to requests from regulatory bodies or authorities [21]. Pollution and the loss of natural resources are prevented from harming the environment by employing green products and practices [22]. Sustainable water management, energy saving, solid waste management, maintaining air quality, purchasing in an environmentally conscious manner, raising public awareness, and permit maintenance are a few of these "green" operations [23, 24]. Green hotel management takes steps to save costs and protect resources like energy, water, and solid waste. Green hotels prioritize the environment [25, 26]. In order to provide visitors with a secure, non-toxic, and energy-efficient stay, these hotels abide by the rules [27]. By putting environmental regulations into place and utilizing certain green new technologies, green hotels significantly improve operational outcomes while also contributing to environmental conservation [28]. Recycling and eco-purchasing are just two instances of eco-friendly hotel practices that minimize a negative impact on the environment [29]. Similarly, "green hotels" are described as "environmentally conscious establishments whose managers are keen to undertake projects that simultaneously reduce energy use, water use, and solid waste" [30].

2.2 Important Eco-friendly Practices Exercised by Hotels

Environmental sustainability is one of the most crucial aspects to take into account for overall sustainability

[31, 32]. In response to requests from authorities or regulators, hotels are required to implement green practices [21]. Using environmentally friendly items and practices can help reduce pollution and the loss of natural resources [22]. Among these green initiatives are permit maintenance, public awareness campaigns, energy and water conservation, solid waste management, clean air assurance, environmentally friendly purchasing, and sustainable water management. Environmentalism has been identified as one of the most important business concerns of the decade given the enormous increase in environmental consciousness that occurred in the 1990s throughout the world. Table 1 is indicating some of the important eco-friendly practices exercised by hotel industry:

Table 1: Important eco-friendly practices exercised by hotel industry

Author/s	Research Paper on the Sector	Important Eco-friendly practices
Salama and Abdelsalam [33]	Hotel	The reuse of amenities
Subbiah and Kannan [27]	Hotel	No use of throwaway items
Nasif et al. [34]	Hotel	Rainwater collection as a substitute for traditional water sources
Yuksel et al. [35]	Hotel	Use of electronic media and the paperless policy
Delgado and Campbell [36]	Hotel	Each hotel room has insulated pipes and solar geysers.
Lazièa-putnik, I., & Lazaria-zec [37]	Hotel	The hotel has a no-smoking policy throughout
Elshaer et al. [38]	Hotel	Using natural flora and landscaping techniques in public spaces
Bagio and Budidharmanto [39]	Hotel	The room's lights and temperature were controlled by a key card
Anunobi et al. [40]	Hotel	The room's natural ventilation
Mbasera et al. [23]	Hotel	Adoption of ecologically friendly products
Parpairi [41]	Hotel	Adoption of biodegradable products
Fransisca and Zahrah [42]	Hotel	Sunlight usage in public spaces
Önüt and Soner [43]	Hotel	Using energy-efficient equipment
Mensah [44]	Hotel	Changing the linens every other day
Bruns-Smith et al. [45]	Hotel	Utilisation of automatic low flow fixtures
Hsiao et al. [46]	Hotel	More using local goods to support local communities
Baker et al. [47]	Hotel	Hotels with eco-friendly practises awareness programs for staff and visitors
Mishra [48]	Hotel	Hotels that donate money or in-kind to environmental NGOs

2.3 Consumers Satisfaction Level with Eco-friendly Hotels

According to Pizam and Ellis [49] as cited in Lu and Stepchenkova, [50], "a psychological notion that involves the feeling of well-being and pleasure that arises from receiving what one aspires for and anticipates from an appealing product and service" is the definition of customer satisfaction. For hotels to stay in business, maintaining customer happiness is essential [51]. The association between eco-friendly hotel practices and happy customers has been the subject of numerous studies [52, 53, 54, 50, 55, 56]. When they receive good service, guests in green hotels are happier than those at non-green hotels. This is especially true when eco-friendly hotels carry out eco-friendly programs for the benefit of the local community instead of their personal interests (like increasing hotel revenues) [54]. According to Robinot and Giannelloni [55], tourists view environmentally friendly practices as "essential" rather than "extra."

When customers perceive green practices favorably, they only marginally increase customer happiness; yet, when customers view them adversely, customer satisfaction is dramatically reduced. Green practices are an essential part of hotel service. Visitors will get unhappy if they see that they lack something [55].

The relationship between service qualities and customer satisfaction in the hotel industry has been thoroughly studied [57, 58]. Nonetheless, further research is necessary to ascertain the relationship between environmentally friendly hotel features and guest satisfaction [15]. Merli et al. [15] documented how travelers assess these practices and looked at the connection between travelers' perceptions of "green hotel" practices and the activities they plan to engage in. The writers whose work is cited in this sentence investigated the relationship between green practices and visitors' loyalty to particular green hotels. The authors also underlined the significance of customer satisfaction as a mediator. Scholars have investigated and substantiated the importance of the relationship between green practices and customer satisfaction in the context of the tourism sector [15, 59, 60]. Even though green service attributes can consistently raise customer satisfaction. More than ever, guests expect hotel management to use sustainable practices [53, 55]. Customers perceive hotel ambient qualities as "fundamental aspects" that are an essential part of the service [55].

3 Research Objectives

- To analyze the satisfaction level of consumers with eco-friendly practices exercised in hotels.
- To compare male and female consumers satisfaction level with eco-friendly practices exercised in hotels.
- To compare single and married couple consumers satisfaction level with eco-friendly practices exercised in hotels.

4 Research Methodology

The present study's data was collected from hotel sector clients, namely from guests who have a preference for staying in five-star hotels in Delhi-NCR that follow eco-friendly policies. A standardized questionnaire was used to conduct the survey, which covered all the study's goals. Google Forms was used to disseminate a structured questionnaire to responders as part of the data collection process. Three components made up the questionnaire. The first portion focused on the respondents' demographics. The second segment included closed-ended inquiries about the respondents' travel and lodging histories. Third section consisted closed ended questions on consumers satisfaction level with eco-friendly practices exercised in 5-star category hotels of Delhi NCR. The third section's closed-ended questions were constructed using a Likert scale of 1 to 5, with 1 denoting extremely dissatisfied, 2 dissatisfied, 3 neutral, 4 satisfied, and 5 highly satisfied.

The central tendency technique is employed in this study to accomplish its first, second, and third aims, as detailed by Damhare and Khan [61] in their research. All of the parameters had weighted mean scores determined for them, and these scores were used to generate rankings for the different parameters. The internal consistency reliability estimations are assessed using the Cronbach's alpha reliability test. In order to determine the effect of eco-friendly practices on respondents' satisfaction level, respondents were asked 18 questions about eco-friendly practices utilized in hotels. The 18 eco-friendly practices employed by hotels had a Cronbach's alpha value of 0.74, indicating a good range of reliability. A structured questionnaire was used as the primary data collection tool in August of 2023. Secondary sources of information included government reports, national and international journals, theses, published research articles, websites, books, newspapers, magazines, and so on. A total of 350 respondents were given the questionnaire, of whom 275 completed it and 240 were deemed valid for data analysis. Convenience sampling was employed in the data collection process.

5 Data Analysis and Interpretation

5.1 Demographic Profile of the Respondents

Table 2: Demographic profile of the respondents

Gender	Male	54.16
	Female	45.8
	Preferred not to say	----
Age	18-30 years	44.2
	31-40 years	26.5
	41-50 years	20.4
	51-60 years	8.8
	Above 60 years	----
Marital Status	Single	56.6
	Married	43.4
	Preferred not to say	----
Area of Residence	Urban	65.7
	Rural	34.3
Educational Qualifications	Undergraduate	8.8
	Graduate	37.6
	Postgraduate	33.7
	Doctorate	9.9
	Others	9.9
Occupation	Students	16.6
	Government Job	29.3
	Private Job	22.7
	Business	22.2
	Others	9.4
Annual Income	Not earning	8.8
	Up to 3 Lakhs	19.9
	3-6 Lakhs	26.5
	6-10 Lakhs	25.4
	More than 10 Lakhs	19.3

In August 2023, 350 respondents nationwide were given a structured questionnaire using an online platform using Google Form, in order to fulfil the study's objectives. A total of 275 out of 350 participants completed and submitted the survey, with 240 of those responses being deemed legitimate and complete. The demographic traits of guests staying at eco-friendly hotels are shown in Table 2. According to the gender distributions, 45.8% of the respondents were female (n=110) and the bulk of the respondents were male (54.16%, or 130 in total). 44.2% of respondents were in the 18–30 age range, 26.5% were in the 31–40 age range, 20.4% were in the 41–50 age range, and 8.8% were in the 51–60 age range. According to the survey data, the majority of participants are married (56.6%, or 136 in total), while 43.4% are single (104 in total). The majority of those surveyed—65.7%—live in metropolitan areas. Undergraduates make up 8.8% of the responders, graduates make up 37.6%, postgraduates make up 33.7%, doctors make up 9.9%, and other credentials make up 9.9%. 16.6% of respondents work as students, 29.3% are employed by the government,

22.7% work for commercial companies, and 22.2% are starting their own businesses. 8.8% of the respondents do not have a job, 19.9% make up to 3 lakhs annually, 26.5% have an annual income of 3-6 lakhs, 25.4% make between 6 and 10 lakhs annually, and 19.3% make more than 10 lakhs annually.

5.2 Profile of the Respondents Related to Their Travel and Hotel Stay

Table 3 indicates the profile of the respondents related to their travel and hotel stay. Table 3 shows that 24.9% of the respondents visit 5-star category hotel once a year, 25.4% twice, 19.3% 3 times, 9.4% four times and 21% of the respondent visit 5-star category hotel of Delhi-NCR more than 4 times in a year. 49.2% of the respondents stay up to 3 days while visiting 5-star category hotels of Delhi-NCR, 34.3% stays for 4-6 days, 13.3% stays for 7-10 days and 3.3% of the respondents stays for more than 10 days while visiting 5-star category hotels. 28.2% of the respondents spends an average amount of Rs. 20,000 while visiting 5-star category hotel of Delhi-NCR, 29.8% spends Rs. 20,000-30,000, 27.6% spends RS. 30,000-40,000/-, 7.2% spends 40,000-50,000 and 7.2% of the respondents spends more than Rs. 50,000/- in their visit to 5-star category hotels of Delhi-NCR.

Table 3: Profile of the respondents related to their travel and hotel stay

How many times in a year do you visit 5-star category hotels?	Once a year	24.9
	2 times a year	25.4
	5 times a year	19.3
	5 times a year	9.4
	More than 4 times	21
Average duration of stay in hotels per visit	Up to 3 days	49.2
	4-6 days	34.3
	7-10 days	13.3
	More than 10 days	3.3
Average spending per visit in hotels	Up to Rs. 20000/-	28.2
	Rs. 20000-30000/-	29.8
	Rs. 30,000-Rs. 40,000/-	27.6
	Rs. 40,000-50,000/-	7.2
	More than Rs. 50,000/-	7.2

5.3 Satisfaction Level of Consumers with Eco-Friendly Practices Exercised by 5-Star Category Hotels

The study's primary goal was to determine how satisfied customers were with the eco-friendly measures taken by Delhi-NCR's five-star hotels. Respondents who stay at Delhi-NCR's five-star hotels were given closed-ended questions covering eighteen parameters. On a 5-point Likert scale, 1 represented extreme dissatisfaction, 2 dissatisfaction, 3 neutrality, 4 satisfaction, and 5 high satisfaction. There were 240 valid answers discovered.

The weighted mean and weighted total of consumers' satisfaction with several eco-friendly practices are shown in Table 4. From the weighted mean score, it has been found that top 6 most satisfactory eco-friendly practices in the order of their ranking are adoption of ecologically friendly products (Weighted Mean Score= 3.95) followed by room's natural ventilation (Weighted Mean Score= 3.89), adoption of biodegradable products (Weighted Mean Score= 3.88), Hotels that donate money or in-kind to environmental NGOs (Weighted Mean Score= 3.85), hotel room has insulated pipes and solar geysers (Weighted Mean Score= 3.82) and usage of natural flora and landscaping techniques in public spaces (Weighted Mean Score= 3.8). Eco-friendly practices which moderately satisfy consumers of 5-star category hotels are usage of energy-efficient equipment (Weighted Mean Score= 3.79), the room's lights and temperature were controlled by a key card (Weighted Mean Score= 3.78), Hotels with eco-friendly practices awareness programs for staff and visitors (Weighted Mean Score= 3.751), Utilization of automatic low flow fixtures (Weighted Mean Score= 3.75), using local goods to support local communities (Weighted Mean Score= 3.741) and sunlight usage in

public spaces of hotels (Weighted Mean Score= 3.74). Eco-friendly practices which has least influence on consumers satisfaction are the hotel has a no-smoking policy throughout (Weighted Mean Score= 3.67), rainwater collection as a substitute for traditional water sources (Weighted Mean Score= 3.64), Changing the linens every

other day (Weighted Mean Score= 3.64), use of electronic media and the paperless policy (Weighted Mean Score= 3.63), reuse of amenities (Weighted Mean Score= 3.33) and no use of throwaway items (Weighted Mean Score= 3.12).

Table 4: Consumers satisfaction level with eco-friendly practices exercised by 5-Star Category hotels of Delhi-NCR

PARAMETERS	HD	D	N	S	HS	TOTAL	WT	WM	RANK
The reuse of amenities	33	32	63	45	67	240	801	3.33	16
No use of throwaway items	39	39	62	53	47	240	750	3.12	17
Rainwater collection as a substitute for traditional water sources	13	33	65	44	85	240	875	3.64	14
Use of electronic media and the paperless policy	17	28	58	59	78	240	873	3.63	15
Each hotel room has insulated pipes and solar geysers	16	21	46	64	93	240	917	3.82	5
The hotel has a no-smoking policy throughout	24	21	49	60	86	240	883	3.67	13
Using natural flora and landscaping techniques in public spaces	17	21	52	51	99	240	914	3.8	6
The room's lights and temperature were controlled by a key card	13	20	54	72	81	240	908	3.78	8
The room's natural ventilation	10	23	49	59	99	240	934	3.89	2
Adoption of ecologically friendly products	9	25	45	50	111	240	949	3.95	1
Adoption of biodegradable products	8	23	48	71	90	240	932	3.88	3
Sunlight usage in public spaces	13	29	47	69	82	240	898	3.74	12
Using energy-efficient equipment	13	25	46	71	85	240	910	3.79	7
Changing the linens every other day	13	34	61	49	83	240	875	3.64	14
Utilization of automatic low flow fixtures	5	34	64	50	87	240	900	3.75	10
More using local goods to support local communities	11	30	55	57	87	240	899	3.741	11
Hotels with eco-friendly practices awareness programs for staff and visitors	12	36	44	55	93	240	901	3.751	9
Hotels that donate money or in-kind to environmental NGOs	10	26	53	51	100	240	925	3.85	4

Note: HD: Highly Dissatisfied, D: Dissatisfied, N: Neutral, S: Satisfied, HS: Highly Satisfied, WT: Weighted total, WM: Weighted mean

5.4 Comparison of Male and Female Consumers Satisfaction Level with Eco-friendly Practices Exercised 5-Star Category Hotels

Comparing how satisfied men and women were with eco-friendly practices used in five-star hotels was the study's second goal. Out of the 240 responses that were deemed legitimate, 110 were female and 130 were male. Table 5 displays the degree of happiness that male customers have with eco-friendly practices used in 5-star hotels, whereas Table 6 displays the degree of satisfaction that female consumers have with eco-friendly practices used in 5-star hotels. Top most influential eco-friendly practices which satisfy male consumers in the order of ranking are adoption of ecologically friendly products, adoption of biodegradable products, Usage of natural flora and landscaping techniques in public spaces, hotel room has insulated pipes and solar geysers, Usage of energy-efficient equipment and room's natural ventilation. Top most influential eco-friendly practices which satisfy female consumers in the order of ranking are adoption of ecologically friendly products, room's natural ventilation, Hotels that donate money or in-kind to environmental NGOs,

Adoption of biodegradable products, Hotels with eco-friendly practices awareness programs for staff and visitors and more usage of local goods to support local communities. Eco-friendly practices which moderately satisfy male consumers in 5-star hotels are the room's lights and temperature were controlled by a key card, Hotels that donate money or in-kind to environmental NGOs, Use of electronic media and the paperless policy, Sunlight usage in public spaces, Hotels with eco-friendly practices awareness programs for staff and visitors and more using local goods to support local communities. Eco-friendly practices which moderately satisfy female consumers in 5-star hotels are each hotel room has insulated pipes and solar geysers, the room's lights and temperature were controlled by a key card, Utilization of automatic low flow fixtures, Sunlight usage in public spaces, Using energy-efficient equipment and Using natural flora and landscaping techniques in public spaces. Eco-friendly practices which least satisfy male consumers are Changing the linens every other day, reuse of amenities and No use of throwaway items. Eco-friendly practices which least satisfy female consumers are Use of electronic media and the paperless policy, reuse of amenities and No use of throwaway items.

Table 5: Male Consumers satisfaction level with eco-friendly practices exercised by 5-Star Category hotels of Delhi-NCR

PARAMETERS	HD	D	N	S	HS	TOTAL	WT	WM	RANK
The reuse of amenities	16	20	27	23	44	130	449	3.45	16
No use of throwaway items	17	21	32	31	29	130	424	3.26	17
Rainwater collection as a substitute for traditional water sources	5	19	35	24	47	130	479	3.68	12
Use of electronic media and the paperless policy	5	14	30	41	40	130	487	3.75	9
Each hotel room has insulated pipes and solar geysers	5	12	32	30	51	130	500	3.85	4
The hotel has a no-smoking policy throughout	12	11	29	36	42	130	475	3.65	14
Using natural flora and landscaping techniques in public spaces	6	12	28	31	53	130	503	3.87	3
The room's lights and temperature were controlled by a key card	5	14	28	40	43	130	492	3.781	7
The room's natural ventilation	8	9	29	37	47	130	496	3.82	6
Adoption of ecologically friendly products	5	13	25	32	55	130	509	3.92	1
Adoption of biodegradable products	4	13	28	35	50	130	504	3.88	2
Sunlight usage in public spaces	4	20	23	43	40	130	485	3.73	10
Using energy-efficient equipment	5	13	26	41	45	130	498	3.83	5
Changing the linens every other day	5	22	29	33	41	130	473	3.64	15
Utilization of automatic low flow fixtures	5	18	32	36	39	130	476	3.66	13
More using local goods to support local communities	7	14	33	33	43	130	481	3.70	11
Hotels with eco-friendly practices awareness programs for staff and visitors	8	18	24	35	45	130	481	3.70	11
Hotels that donate money or in-kind to environmental NGOs	2	18	31	35	44	130	491	3.78	8

Note: HD: Highly Dissatisfied, D: Dissatisfied, N: Neutral, S: Satisfied, HS: Highly Satisfied, WT: Weighted total, WM: Weighted mean

Table 6: Female Consumers satisfaction level with eco-friendly practices exercised by 5-Star Category hotels of Delhi-NCR

PARAMETERS	HD	D	N	S	HS	TOTAL	WT	WM	RANK
The reuse of amenities	12	12	36	22	28	110	372	3.38	17
No use of throwaway items	22	18	30	22	18	110	326	2.96	18
Rainwater collection as a substitute for traditional water sources	8	14	30	20	38	110	396	3.60	15
Use of electronic media and the paperless policy	12	14	28	18	38	110	386	3.51	16
Each hotel room has insulated pipes and solar geysers	11	9	14	34	42	110	417	3.79	7
The hotel has a no-smoking policy throughout	12	10	20	24	44	110	408	3.71	13
Using natural flora and landscaping techniques in public spaces	11	9	24	20	46	110	411	3.74	12
The room's lights and temperature were controlled by a key card	8	6	26	32	38	110	416	3.78	8
The room's natural ventilation	2	14	20	22	52	110	438	3.98	2
Adoption of ecologically friendly products	4	12	20	18	56	110	440	4.00	1
Adoption of biodegradable products	4	10	20	36	40	110	428	3.89	4
Sunlight usage in public spaces	9	9	24	26	42	110	413	3.751	10
Using energy-efficient equipment	8	12	20	30	40	110	412	3.75	11
Changing the linens every other day	8	12	32	16	42	110	402	3.65	14
Utilization of automatic low flow fixtures	0	16	32	24	38	110	414	3.76	9
More using local goods to support local communities	4	16	22	24	44	110	418	3.80	6
Hotels with eco-friendly practices awareness programs for staff and visitors	4	18	20	20	48	110	420	3.82	5
Hotels that donate money or in-kind to environmental NGOs	8	8	22	16	56	110	434	3.95	3

Note: HD: Highly Dissatisfied, D: Dissatisfied, N: Neutral, S: Satisfied, HS: Highly Satisfied, WT: Weighted total, WM: Weighted mean

5.5 Comparison of Single and Married Couples Satisfaction Level with Eco-friendly Practices Exercised 5-Star Category Hotels

Comparing how satisfied singles and married couples were with the eco-friendly measures used in five-star hotels was the study's third goal. Out of the 240 responses that were deemed legitimate, 136 were provided by single people and 104 by married couples. Table 7 displays the degree of happiness that single customers have with eco-friendly practices used in 5-star hotels, whereas Table 8 displays the degree of satisfaction that married customers have with eco-friendly practices used in 5-star hotels. Top most influential eco-friendly practices which satisfy single consumers in 5-star category hotels are Hotels that donate money or in-kind to environmental NGOs, room's natural ventilation, hotel room has insulated pipes and solar geysers, adoption of ecologically friendly products, adoption of biodegradable products, and usage of natural flora and landscaping techniques in public spaces. Top most influential eco-friendly practices which satisfy married consumers in 5-star category hotels in the order of importance are Adoption of ecologically friendly products,

Adoption of biodegradable products, Using energy-efficient equipment, room's natural ventilation, Using natural flora and landscaping techniques in public spaces and the room's lights and temperature were controlled by a key card. Eco-friendly practices which moderately satisfy single consumers in 5-star hotels are hotels with eco-friendly practices awareness programs for staff and visitors, Using energy-efficient equipment, Sunlight usage in public spaces, More using local goods to support local communities, The room's lights and temperature were controlled by a key card and Utilization of automatic low flow fixtures.

Eco-friendly practices which moderately satisfy married consumers in 5-star hotels are Each hotel room has insulated pipes and solar geysers, Changing the linens every other day, Use of electronic media and the paperless policy, The hotel has a no-smoking policy throughout, Hotels that donate money or in-kind to environmental NGOs and Sunlight usage in public spaces. Eco-friendly practices which least satisfy single consumers in 5-star hotels are Changing the linens every other day, reuse of amenities and No use of throwaway items. Eco-friendly practices which least satisfy married consumers in 5-star hotels are hotels with eco-friendly practices awareness programs for staff and visitors, reuse of amenities and No use of throwaway items.

Table 7: Single (Unmarried) Consumers satisfaction level with eco-friendly practices exercised by 5-Star Category hotels of Delhi-NCR

PARAMETERS	HD	D	N	S	HS	TOT AL	W T	W M	RA NK
The reuse of amenities	21	20	33	25	37	136	44 5	3.27	14
No use of throwaway items	22	25	32	30	27	136	42 3	3.11	15
Rainwater collection as a substitute for traditional water sources	13	19	35	27	42	136	47 4	3.49	11
Use of electronic media and the paperless policy	13	20	30	30	43	136	47 8	3.51	10
Each hotel room has insulated pipes and solar geysers	15	12	30	28	51	136	49 6	3.65	2
The hotel has a no-smoking policy throughout	17	17	29	31	42	136	47 2	3.47	12
Using natural flora and landscaping techniques in public spaces	14	16	31	24	51	136	49 0	3.60 1	5
The room's lights and temperature were controlled by a key card	12	14	32	42	36	136	48 4	3.56	9
The room's natural ventilation	11	17	27	35	46	136	49 6	3.65	2
Adoption of ecologically friendly products	12	20	27	25	52	136	49 3	3.63	3
Adoption of biodegradable products	11	18	27	36	44	136	49 2	3.62	4
Sunlight usage in public spaces	13	18	27	35	43	136	48 5	3.57	8
Using energy-efficient equipment	12	18	26	40	40	136	48 6	3.57 1	7
Changing the linens every other day	12	27	31	28	38	136	46 1	3.39	13
Utilization of automatic low flow fixtures	9	20	32	36	39	136	48 4	3.56	9
More using local goods to support local communities	11	21	27	34	43	136	48 5	3.57	8
Hotels with eco-friendly practices awareness programs for staff and visitors	13	19	26	30	48	136	48 9	3.60	6
Hotels that donate money or in-kind to environmental NGOs	11	17	26	29	53	136	50 4	3.71	1

Note: HD: Highly Dissatisfied, D: Dissatisfied, N: Neutral, S: Satisfied, HS: Highly Satisfied, WT: Weighted total, WM: Weighted mean

Table 8: Married Consumers satisfaction level with eco-friendly practices exercised by 5-Star Category hotels of Delhi-NCR

PARAMETERS	HD	D	N	S	HS	TOTAL	WT	WM	RANK
The reuse of amenities	12	17	28	20	27	104	345	3.32	15
No use of throwaway items	18	16	27	24	19	104	322	3.10	16
Rainwater collection as a substitute for traditional water sources	8	19	27	19	31	104	358	3.44	12
Use of electronic media and the paperless policy	8	13	26	32	25	104	365	3.51	8
Each hotel room has insulated pipes and solar geysers	7	17	21	31	28	104	368	3.54	7
The hotel has a no-smoking policy throughout	11	13	22	30	28	104	363	3.49	9
Using natural flora and landscaping techniques in public spaces	8	14	21	29	32	104	375	3.61	5
The room's lights and temperature were controlled by a key card	8	16	21	26	33	104	372	3.58	6
The room's natural ventilation	10	11	23	25	35	104	376	3.62	4
Adoption of ecologically friendly products	7	11	22	27	37	104	388	3.73	1
Adoption of biodegradable products	7	12	23	28	34	104	382	3.67	2
Sunlight usage in public spaces	7	19	20	33	25	104	362	3.48	10
Using energy-efficient equipment	7	14	22	27	34	104	379	3.64	3
Changing the linens every other day	9	13	26	25	31	104	368	3.54	7
Utilization of automatic low flow fixtures	8	18	27	23	28	104	357	3.43	13
More using local goods to support local communities	10	13	29	23	29	104	360	3.46	11
Hotels with eco-friendly practices awareness programs for staff and visitors	10	19	20	27	28	104	356	3.42	14
Hotels that donate money or in-kind to environmental NGOs	6	17	28	26	27	104	363	3.49	9

Note: HD: Highly Dissatisfied, D: Dissatisfied, N: Neutral, S: Satisfied, HS: Highly Satisfied, WT: Weighted total, WM: Weighted mean

6 Conclusion

The study's objective was to evaluate how satisfied guests were with hotels' use of environmentally friendly methods. The study's primary goal was to determine how satisfied customers were with the eco-friendly measures taken by Delhi-NCR's five-star hotels. The findings of the first objective revealed that top 6 most satisfactory eco-friendly practices in the order of their ranking are adoption of ecologically friendly products followed by room's natural ventilation, adoption of biodegradable products, Hotels that donate money or in-kind to environmental NGOs, hotel room has insulated pipes and solar geysers and usage of natural flora and landscaping techniques in public spaces. The study's second goal was to examine the degree of satisfaction that male and female customers had with the eco-friendly measures taken by five-star hotels. Top most influential eco-friendly practices which satisfy male consumers in the order of ranking are adoption of ecologically friendly products, adoption of biodegradable products, Usage of natural flora and landscaping techniques in public spaces, hotel room has insulated pipes and solar geysers, Usage of energy-efficient equipment and room's natural ventilation.

Top most influential eco-friendly practices which satisfy female consumers in the order of ranking are adoption of ecologically friendly products, room's natural ventilation, Hotels that donate money or in-kind to environmental NGOs, Adoption of biodegradable products, Hotels with eco-friendly practices awareness programs for staff and visitors and more usage of local goods to support local communities. Comparing how satisfied singles and married couples were with the eco-friendly measures used in five-star hotels was the study's third goal. Top most influential eco-friendly practices which satisfy single consumers in 5-star category hotels are Hotels that donate money or in-kind to environmental NGOs, room's natural ventilation, hotel room has insulated pipes and solar geysers, adoption of ecologically friendly products, adoption of biodegradable products, and usage of natural flora and landscaping techniques in public spaces. Top most influential eco-friendly practices which satisfy married consumers in 5-star category hotels in the order of importance are Adoption of ecologically friendly products, Adoption of biodegradable products, Using energy-efficient equipment, room's natural ventilation, Using natural flora and landscaping techniques in public spaces and the room's lights and temperature were controlled by a key card.

The authors have no competing interests to declare that are relevant to the content of this article.

References

1. Evans, D., Bratton, S., & McKee, J: Social media marketing. AG Printing & Publishing (2021)
2. Dambhare, A., & Khan, S. K.: Analysing the issues faced by leisure travelers with the established services and facilities of star category hotels. *Journal of Tianjin University Science and Technology*, 55(11), 121-140 (2022)
3. Li, X., & Wang, Y.: Evaluating the effectiveness of destination marketing Organizations' websites: evidence from China. *International journal of tourism research*, 12(5), 536-549 (2010)
4. World Travel and Tourism Council: Economic impact of Travel and tourism report.WTTC. Retrieved August 26, 2023 from <https://wtcc.org/en-us/> <https://www.unwto.org/news/unwto-and-ifc-partner-to-facilitate-green-investments-for-tourisms-sustainable-future> (2019)
5. Gössling, S., Scott, D., Hall, C. M., Ceron, J. P., & Dubois, G.: Consumer behaviour and demand response of tourists to climate change. *Annals of tourism research*, 39(1), 36-58 (2012)
6. WTTC: Travel & Tourism Global Economic Impact & Issues. World Travel Tour. Counc. 11. Retrieved August, 2023 from <https://wtcc.org/Research/Economic-Impact> (2018).
7. Lenzen, M., Sun, Y. Y., Faturay, F., Ting, Y. P., Geschke, A., & Malik: The carbon footprint of global tourism. *Nature climate change*, 8(6), 522-528 A. (2018)
8. Pang, S. F., McKercher, B., & Prideaux, B.: Climate change and tourism: An overview. *Asia Pacific Journal of Tourism Research*, 18(1-2), 4-20. <https://doi.org/10.1080/10941665.2012.688509> (2013)
9. Ryan, C.: Equity, management, power sharing and sustainability—issues of the 'new tourism'. *Tourism management*, 23(1), 17-26 (2002)

10. Ministry of Tourism, Annual Tourism Report 2017-18 Ministry of Tourism. Retrieved on August 25, 2023 from <https://tourism.gov.in/sites/default/files/2019-10/Annual%20Report2017-18.pdf> (2018)
11. Morgan, N. A., Anderson, E. W., & Mittal, V.: Understanding firms' customer satisfaction information usage. *Journal of marketing*, 69(3), 131-151 (2005)
12. Kassinis, G. I., & Soteriou, A. C.: Environmental and quality practices: using a video method to explore their relationship with customer satisfaction in the hotel industry. *Operations Management Research*, 8, 142-156 (2015)
13. Manaktola, K., & Jauhari, V.: Exploring consumer attitude and behaviour towards green practices in the lodging industry in India. *International journal of contemporary hospitality management*, 19(5), 364-377 (2007)
14. Ham, S., & Han, H.: Role of perceived fit with hotels' green practices in the formation of customer loyalty: Impact of environmental concerns. *Asia Pacific Journal of Tourism Research*, 18(7), 731-748 (2013)
15. Merli, R., Preziosi, M., Acampora, A., & Ali, F.: Why should hotels go green? Insights from guests experience in green hotels. *International Journal of Hospitality Management*, 81, 169-179 (2019)
16. Prud'homme, B., & Raymond, L.: Sustainable development practices in the hospitality industry: An empirical study of their impact on customer satisfaction and intentions. *International journal of hospitality management*, 34, 116-126 (2013)
17. Xu, X., & Gursoy, D.: Influence of sustainable hospitality supply chain management on customers' attitudes and behaviours. *International journal of hospitality management*, 49, 105-116 (2015)
18. Yusof, Y., Awang, Z., Jusoff, K., & Ibrahim, Y.: The influence of green practices by non-green hotels on customer satisfaction and loyalty in the hotel and tourism industry. *International Journal of Green Economics*, 11(1), 1-14 (2017)
19. Lee, S., Sun, K. A., Wu, L., & Xiao, Q.: A moderating role of green practices on the relationship between service quality and customer satisfaction: Chinese hotel context. *Journal of China Tourism Research*, 14(1), 42-60 (2018)
20. Martinez, P.: Customer loyalty: Exploring its antecedents from a green marketing perspective. *International Journal of Contemporary Hospitality Management*, 27(5), 896-917 (2015)
21. Kim, S. H., & Choi, Y.: Hotel employees' perception of green practices. *International journal of hospitality & tourism administration*, 14(2), 157-178 (2013)
22. Smith, E. E., & Perks, S.: A perceptual study of the impact of green practice implementation on the business functions. *Southern African Business Review*, 14(3) (2010)
23. Mbasera, M., Du Plessis, E., Saayman, M., & Kruger, M.: Environmentally-friendly practices in hotels. *Acta Commercii*, 16(1), 1-8 (2016)
24. Pan, S. Y., Gao, M., Kim, H., Shah, K. J., Pei, S. L., & Chiang, P. C.: Advances and challenges in sustainable tourism toward a green economy. *Science of the total environment*, 635, 452-469 (2018)
25. Ahmed, M. F., Mokhtar, M. B., Lim, C. K., Hooi, A. W. K., & Lee, K. E.: Leadership roles for sustainable development: The case of a Malaysian green hotel. *Sustainability*, 13(18), 10260 (2021)
26. Kasavana, M. L.: Green hospitality. *Hospitality upgrade*, summer, 140-148 (2008)
27. Subbiah, K., & Kannan, S.: The eco-friendly management of hotel industry. In *International Conference on Green technology and environmental Conservation (GTEC-2011)* (pp. 285-290). IEEE (2011, December)
28. Kostić, M., Ratković, M., & Forlani, F.: Eco-hotels as an example of environmental responsibility and innovation in savings in the hotel industry. *Menadžment u hotelijerstvu i turizmu*, 7(2), 47-56 (2019)
29. Wolfe, K. L., & Shanklin, C. W.: Environmental practices and management concerns of conference centre administrators. *Journal of Hospitality & Tourism Research*, 25(2), 209-216 (2001)
30. Green Hotel Association: What Are Green Hotels? Retrieved August 25, 2023 from <http://greenhotels.com/index.php> (2018)
31. Jeter, P.M.: 'Green inside and out: Case study of green events in large public assembly', Master's thesis, School of Hotel, Restaurant and Tourism Management, University of South Carolina (2009)
32. Page, J.P.: *Tourism management: Managing for change*, Elsevier Ltd., London (2009)
33. Salama, W., & Abdelsalam, E.: Impact of hotel guests' trends to recycle food waste to obtain bioenergy. *Sustainability*, 13(6), 3094 (2021)

34. Nasif, M. S., Kumar, A. G. A., & Roslan, R. An effective optimization of rainwater harvesting system in hotel and hospital buildings (2016)
35. Yuksel, A. S., Cankaya, I. A., & Cankaya, S. F.: IoT for hospitality industry: paperless buffet management. In *Securing the Internet of Things: Concepts, Methodologies, Tools, and Applications* (pp. 1388-1408). IGI Global (2020)
36. Delgado, R., & Campbell, H. E.: Adaptation and Sizing of Solar Water Heaters in Desert Areas: for Residential and Hotels. *Energy Procedia*, 57, 2725-2732 (2014)
37. LAZIËLË-PUTNIK, L., & LAZARIË-ZEC, D.: Tobacco smoking in hotel workers and the necessity to promote non-smoking policy at the workplace. *Arh Hig Rada Toksikol*, 54, 127-132 (2003)
38. Elshaer, I. A., Azazz, A. M., Ameen, F. A., & Fayyad, S.: Sustainable Horticulture Practices to Predict Consumer Attitudes towards Green Hotel Visit Intention: Moderating the Role of an Environmental Gardening Identity. *Horticulturae*, 9(1), 31 (2022)
39. Bagio, A. C., & Budidharmanto, L. P.: Guest Pro-environmental Behavior Towards the Implementation of Energy Efficiency through Smart Key Technology in Capsule Hotel: Studi Kasus di Bobobox Indonesia dan Digital Airport Hotel. *Indonesian Journal of Social and Environmental Issues (IJSEI)*, 4(2), 184-191 (2023)
40. Anunobi, A. I., Adedayo, O. F., Oyetola, S. A., Siman, E. A., & Audu, H. I.: Assessment of window types in natural ventilation of hotels in Taraba State. *Journal of Environment and Earth Science*, 5(2), 117-125 (2015)
41. Parpairi, K.: Sustainability and Energy Use in Small Scale Greek Hotels: Energy Saving Strategies and Environmental Policies. *Procedia Environmental Sciences*, 38, 169-177 (2017)
42. Fransisca, J., & Zahrah, W.: Hotel Resort Approach to Cultural Value and The Principle of Local Architecture in Pangururan, Samosir. *International Journal of Architecture and Urbanism*, 3(2), 204-217 (2019)
43. Öñüt, S., & Soner, S. Energy efficiency assessment for the Antalya Region hotels in Turkey. *Energy and Buildings*, 38(8), 964-971 (2006)
44. Mensah, I.: Environmental management practices among hotels in the greater Accra region. *International journal of hospitality management*, 25(3), 414-431 (2006)
45. Bruns-Smith, A., Choy, V., Chong, H., & Verma, R.: Environmental sustainability in the hospitality industry: Best practices, guest participation, and customer satisfaction (2015)
46. Hsiao, T. Y., Chuang, C. M., Kuo, N. W., & Yu, S. M. F.: Establishing attributes of an environmental management system for green hotel evaluation. *International Journal of Hospitality Management*, 36, 197-208 (2014)
47. Baker, M. A., Davis, E. A., & Weaver, P. A.: Eco-friendly attitudes, barriers to participation, and differences in behavior at green hotels. *Cornell Hospitality Quarterly*, 55(1), 89-99 (2014)
48. Mishra, P. P.: How green are our hotels? Evidence from Thailand. *Environment and Urbanization ASIA*, 7(1), 132-148 (2016)
49. Pizam, A., & Ellis, T.: Customer satisfaction and its measurement in hospitality enterprises. *International Journal of Contemporary Hospitality Management*, 11(7), 326-339 (1999)
50. Lu, W., & Stepchenkova, S.: Ecotourism experiences reported online: Classification of satisfaction attributes. *Tourism management*, 33(3), 702-712 (2012)
51. Ren, L., Qiu, H., Wang, P., & Lin, P. M.: Exploring customer experience with budget hotels: Dimensionality and satisfaction. *International Journal of Hospitality Management*, 52, 13-23 (2016)
52. Berezan, O., Millar, M., & Raab, C.: Sustainable hotel practices and guest satisfaction levels. *International Journal of Hospitality & Tourism Administration*, 15(1), 1-18 (2014)
53. Berezan, O., Raab, C., Yoo, M., & Love, C.: Sustainable hotel practices and nationality: The impact on guest satisfaction and guest intention to return. *International Journal of Hospitality Management*, 34, 227-233 (2013)
54. Gao, Y. L., & Mattila, A. S.: Improving consumer satisfaction in green hotels: The roles of perceived warmth, perceived competence, and CSR motive. *International journal of hospitality management*, 42, 20-31 (2014)

55. Robinot, E., and Giannelloni, J.L.: Do hotels' "green" attributes contribute to customer satisfaction? *Journal of Services Marketing*, 24(2), 157 – 169 (2010)
56. Slevitch, L., Mathe, K., Karpova, E., & Scott-Halsell, S.: "Green" attributes and customer satisfaction: Optimization of resource allocation and performance. *International Journal of Contemporary Hospitality Management*, 25(6), 802-822 (2013)
57. Malik, S. A., Akhtar, F., Raziq, M. M., & Ahmad, M.: Measuring service quality perceptions of customers in the hotel industry of Pakistan. *Total Quality Management & Business Excellence*, 31(3-4), 263-278 (2020)
58. Prentice, C., Wang, X., & Loureiro, S. M. C.: The influence of brand experience and service quality on customer engagement. *Journal of Retailing and Consumer Services*, 50, 50-59 (2019)
59. Yu, Y., Li, X., & Jai, T. M.: The impact of green experience on customer satisfaction: Evidence from TripAdvisor. *International Journal of Contemporary Hospitality Management*, 29(5), 1340-1361 (2017)
60. Assaker, G., O'Connor, P., & El-Haddad, R.: Examining an integrated model of green image, perceived quality, satisfaction, trust, and loyalty in upscale hotels. *Journal of Hospitality Marketing & Management*, 29(8), 934-955 (2020)
61. Dambhare, A., & Khan, S. K.: An Analysis of Teachers Perceptions Towards Online Learning in India During Covid Pandemic. *Journal of Services Research*, 21(1) (2021)

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

