

# Analysing the Impact of Eco Friendly Practices on Consumers in Selection of Star Category Hotels of Delhi-NCR

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## Abstract

Hospitality industry particularly hotel industry consumes natural resources and produces waste products. There are very limited resources of energy on earth because of which energy conservation has become a vital part of each and every industry and hospitality industry is not left behind. To conserve the energy, hotel industry have started using green practices such as linen reuse program, adjustable temperature control, occupancy sensors, recycling programmes and many more. Popularity of environmental concerns continues to increase in hotel industry because of increased awareness about environmental issues. Acknowledging this very fact, the present study focuses on exploring the eco-friendly practices exercised in star category hotels of Lucknow and as well as the challenges faced by the hotels in the implementation of green practices in their operations. A well-structured questionnaire was developed to collect information from the hotel personnel. The results indicated that there are certain eco-friendly practices like garbage disposal, installation of sewage treatment plant, usage of dual flush in bathrooms, electronic key cards and energy efficient lighting are mostly exercised practices in all the star category hotels of Lucknow. The findings also revealed that initial investment cost for green set-up is very high which is one of the prime challenge faced by the hotels in the implementation of green practices.

**Keywords:** Hospitality Industry, Eco- Hotels, Green practices, Sustainable, Natural Resources

## Introduction

India is land of culture, every year people from various countries visit India for various purpose weather it is related to trade or business, Medical, Leisure or Religious point. In year 2019 the total Foreign Tourists Arrival in India is approx. 10.93 million with an Annual Growth Rate of 3.5%, from that the approximate Foreign Exchange Earning is about Rupees 211661 Crores (US \$ 30.058 Billion) with an annual growth rate of 8.6%.

With the rapid increase in the number of hotels, there is also increase in the environmental degradation because of their increased consumption and up to the certain extent wastage of various resources including electricity, water, food, fuel in terms of Petroleum, LPG etc. Due to the rising concern of Environmental degradation, tourists are more conscious about the negative impact of tourism and due to that the

concept of Eco tourism emerged which further leads to the boost in the concept of Eco Tourism. (Chand & Garg, 2017). Some scholars have suggested that green hotels are those that show a kind of environmental apprehension that can render into a pledge to Environment Friendly practices (e.g. Watkins, 1994).

Hotels are one of the Important part of the tourism Industry because it provides basic facilities i.e lodging & food along with certain luxuries including Dining Outlets Serving various cuisines, Gym, Spa, Banquets, Business Centre etc to a tourist and act as the major component for making the journey of tourist memorable (Chand & Garge, 2017). Numerous factors attract hotels to adopt eco-friendly practices which include like subsidy from various governmental policies, local environmental associations and legal concerns (Zhu & Sarkis, 2006; Setthasakko, 2007; Kasim & Ismail, 2012). Eco Friendly practices adopted in hotels have the positive image on guest as compared to their intrants (Iwanowski & Rushmore, 1994). Environment is not the single factor for which eco-friendly hotels are popularized, apart from that cost is also reduced up to a certain extent in eco-friendly hotel.

Hotels that are associated with the large brands in any business format can apply eco-friendly practices in a more effective and efficient way because they have better financial stability, better training facilities to employees, hotels which are independently exists often found difficulties in implementing Eco Friendly practices due to budget constant. (Rahman et al., 2012). Hotels may further improve their waste management system by having effective systems for recycling. Waste management and recycling of products must be done effectively to contribute towards better environment (Singh et al., 2014).

## Review of Literature

Tsoutsos et al (2005) concluded that Solar energy is one the best source of energy because it has the more benefits as compared to the traditional energy source, thus it is more reliable for the sustainable human development activities. Ali et al (2008) mentioned in the research that lighting of the main building including the entrance & exit of a hotel, Air Conditioner (HVAC) and illumination in the Public Area of A hotel consumes more energy as compared to other departments of a hotel so there is the requirement to conserve energy.

Garg and Bansal (2000) explained in their research that 30 % of the total investment in the electrical energy can be saved if occupancy sensors are installed and maintained properly in the hotel premises. Tiwari et al (2020) concluded in a research that Lighting from the natural sources, Electronic key card in the guest rooms and energy

efficient lighting are the frequently used practices adopted by star category of hotels to conserve energy. Subbiah and Kannan (2011) mentioned in their research that The major energy technologies suggested for the hoteliers are the sensor based lighting; heating, ventilation and air-conditioning systems (HVAC); multiple speed drivers; and energy management systems. For reducing water usage hotels must install low flow shower heads, electronic sensor based water taps, and drainage barriers around pools; modification of traditional toilets with ultra-flow toilets; use electric & water saving washing machines; and consider other sustainable sources of garden watering such as reusing rainwater, treated water in which detergent is dissolved and water that is collected from air conditioners.

Waris and Hameed (2020) stated in their research that the reduction of Energy is being reduced by using Energy efficient appliances and also they fulfil customer demands in a more better way as they appliances are designed and intended to be practical and useful rather than attractive. Li et al (2019) concluded in their research that Consumers are only inclined towards energy efficient appliances if they have the knowledge about the environment, they are concerned about the environment and apart from that their behaviour and attitude is positively correlated to the energy saving appliances.

Dimara et al (2017) Concluded in their research that Most of the tourist tourists who are travelling to Tourist Centric Destinations will prefer to adopt “Towel Reuse Program” in order to save environmental resources even in that some of them are ready to pay extra for that. It was further mentioned that “Young Guest” or guests who are living in a particular hotel for a Longer duration of time are even willing to pay extra for towel reuse program.

Yi et al (2020) Concluded in the research that hotel guest perceives major green practices that include Reflective Roof, Rain Water Harvest, training of guests as well as employees to make more green efforts are actually beneficial as guest compliment them whereas in the research it was mentioned by few guest that hotel use “Eco Friendly” as a marketing tool and to gain subsidy from government. Wyngaard and Lange (2013) Mentioned in their research that it was beneficial to go for Rain water harvesting as it store rain water that is used in future and also it acts as an alternate source of Ground water. Farsani et al (2021) Concluded in their research that Rain water harvesting is a one time investment project that requires long term vision, they further mentioned that Local Financial Institutions come forward Financed “Water Conserving Projects” and the fee will be paid by guests as “Green Fee”. Subbiah et al (2011) Mentioned in their research that to conserve water Hotels must introduce

“Low flow Shower Heads” in Guest rooms, taps based on Artificial Intelligence, Replace traditional toilets with new “Dual Flush Toilets”, “Vacuum toilets” and to use Waste water which is already be used in other activity will be dispensed for flush and instead of using water cooled ice machines it was a better option to go for air cooled ones.

Verma and Chandra (2016) Concluded in their research that Guest prefer to use Recycle Bins in their rooms as well as in the common guest moment areas, in that few of the guests prefer to use Amenities Dispenser instead of separate scathes of amenities in their rooms along with towel reuse program. Namkung et al (2017) Mentioned in their research that most of the customers willing to pay extra for experiencing the various practices done by green restaurant moreover in that few of them want to pay even more in order to enjoy actual meal while sitting in Green Restaurant.

### Objectives of the Study

- 1.To identify various Eco Friendly Practices followed in Star Category Hotels.
- 2.To analyse the Impact of Eco Friendly Practices on Consumers in the selection of star category hotels of NCR.
- 3.To suggest the measures for the enhancement of eco friendly practices followed by star category hotels of NCR.

### Research Methodology

### Sampling and Data Collection

The data for the current research were collected from the consumers of hotel industry visiting Star Category hotels of National Capital Region (NCR). Survey was conducted with the use of structured questionnaire covering all the aspects of objectives of the study. For data collection, structured questionnaire was distributed to respondents through online platform using Google Forms. Questionnaire was divided into three sections. First section was based on demographic profile of respondents. Second section consisted closed ended questions on influence of eco-friendly practices followed by star category hotels on consumers selection of hotels. Third section consisted open ended question on various suggestive measures given by respondents of hotel industry. Closed ended questions of second section were framed on a Likert scale of 1-5 where 1 indicates not at all influential, 2 indicates slightly influential, 3 indicates somewhat influential, 4 indicates moderately influential and 5 indicates extremely influential. The survey was conducted in the month of January, 2021. The primary sources of data collection is structured questionnaire and secondary sources of information are Government reports, national and international journals, theses, published research articles, websites, books, newspapers, magazines etc.

## Analysis and Findings

**Table 1: Demographic profile of respondents**

Variables		(%)
<b>Gender</b>	Male	51.4
	Female	48.6
	Preferred not to say	----
<b>Age</b>	18-30 years	73.8
	31-40 years	16.8
	41-50 years	6.5
	51-60 years	0.9
	Above 60 years	1.9

<b>Marital Status</b>	Single	67.3
	Married	30.8
	Preferred not to say	1.9
<b>Educational Qualifications</b>	Undergraduate	30.8
	Graduate	15.9
	Postgraduate	50.5
	Doctorate	1.9
	Other	----
<b>Occupation</b>	Students	40.2
	Government Job	21.5
	Private Job	24.3
	Self Employed	7.5
	Others	6.5
<b>Annual Income</b>	Not earning	39.3
	Upto 3 Lakh	17.8
	3-6 Lakhs	23.4
	6-10 Lakhs	12.1
	More than 10 Lakhs	7.5

### Identification of Various Eco Friendly Practices followed by Star Category Hotels of NCR

From the review of past literature it has been found that hotels adopt various Eco Friendly Practices in their daily operations like using solar panels for generating energy, Using occupancy sensors which automatically detect the occupancy and then accordingly adjust the temperature of the premises, electronic key card is useful to save electricity as all the electrical equipment's in the guest room turned on only if guest punch their electronic key card and they will switched off immediately as soon as guest take out there card from that slot, Energy efficient lighting system along with energy efficient appliances including Light emitting Diodes (LED) are very useful in saving energy.

Linen Recycling, Using water sprinklers and Rain water harvesting, Water Recycling programmes and installing dual flush in toilets are the major water saving techniques.

Eco friendly room amenities, recycling bins in guest rooms and wall fixed dispensers for dispensing various amenities such as shampoo and soap are few practices followed by hotels for reducing waste and implementing Green Menu Card and donating left over food to various NGOs prevent the wastage of food.

### Impact of Eco Friendly Practices followed by Star Category hotels of NCR on consumers Hotel Selection

From the study of past literature a list of commonly used eco-friendly practices adopted by hotels was formed Thus,

to achieve the second objective which is based on to analyse the Impact of Eco Friendly Practices on Consumers in the selection of star category hotels of NCR, aforementioned 101 responses has been considered. On a Likert scale of 1(Not at all influential) to 5 (Extremely Influential) surveyed star category hotel guests were asked to indicate that till what extent Eco -Friendly Practices followed by star category hotel influence them to select hotels. Table 2 represents the total weighted score and weighted mean score of tools of Eco – friendly Strategies adopted by hotels.

From the weighted mean score, it has been found that most influential Eco Friendly Practice adopted by hotels to influence guests is Energy Efficient Lighting System (Weighted Mean Score= 4.31) followed by Energy efficient appliances (Weighted Mean Score= 4.27) and Rainwater Harvesting (Weighted Mean Score= 4.16). Various Eco- Friendly Practice which moderately influence guests are Recycling of Water (Weighted Mean Score= 4.15), Eco Friendly Room Amenities (Weighted Mean Score= 4.14), Solar Panels (Weighted Mean Score= 4.06), Linen Recycle Ranked 7th (Weighted Mean Score= 4.04), Recycling Bins in Guest Rooms Ranked 8th (Weighted Mean Score= 4.04), Green Menu ranked 9th (weighted Average=4.01) in this sequence.

The two Eco -Friendly Practice which has least influence on Selection of Hotel are Dual Flush in Toilets (Weighted Mean Score= 3.81) and Occupancy Sensors (Weighted Mean Score= 3.71)

**Table 2: Influence of Eco-Friendly Practice Followed by Star Category of Hotels on Individuals**

ECO-FRIENDLY PRACTICES	Not at all influential (1)	Slightly influential(2)	somewhat influential(3)	moderately influential(4)	extremely influential(5)	total	weighted total	weighted mean	Rank
Solar Panels	3	5	17	33	43	101	411	4.069307	6
Occupancy Sensors	2	7	32	37	23	101	375	3.712871	14
Electronic Key card	1	7	24	30	39	101	402	3.980198	10
Energy efficient lighting system	2	1	12	34	52	101	436	4.316832	1
Energy efficient appliances	2	2	12	35	50	101	432	4.277228	2
Linen Recycle	1	3	23	36	38	101	410	4.059406	7
Use of water Sprinklers	2	5	20	43	31	101	399	3.950495	11
Rainwater Harvesting	2	3	19	29	48	101	421	4.168317	3
Recycling of water	2	2	19	33	45	101	420	4.158416	4
Dual flush in bathroom	5	4	26	36	30	101	385	3.811881	13
Eco-friendly room amenities	1	4	14	42	40	101	419	4.148515	5

Recycling bins in guestrooms	2	2	23	36	38	101	409	4.049505	<b>8</b>
wall fixed dispensers	5	3	24	36	33	101	392	3.881188	<b>12</b>
Green menu	2	5	19	38	37	101	406	4.019802	<b>9</b>
donating leftover food	<sup>1</sup>	4	17	36	43	101	419	4.148515	<b>5</b>

Suggestive measures for the enhancement of eco-friendly practices followed by star category Hotels of NCR

On the basis of the data collected from an structured questionnaire using google forms, Various measures suggested by the respondents for the enhancement of eco – friendly practices followed by star category Hotels of NCR are as follows :

1. Hotels must take green certification as it increases consumers trust towards eco friendly hotels practices.
2. Encourage & Educate guests as well as staff members to follow Eco – Friendly Practices
3. “Best out of waste” practices should be followed in hotels. In daytime , electricity should have minimal Use
4. The guests must be made familiar with eco-friendly appliances fixed in the hotel and should be encouraged to use and adopt eco-friendly practices in their life too as a gesture of social responsibility towards society.
5. Plantation of trees, sources of natural water, electrically operated car in side the hotel campus must be promoted in Hotels, Open Terrace should be decorated with ornamental live plants, other than guest rooms, To avoid sound pollution no loud music should be allowed within the hotel premises. For cigarette smoker a separate smoking zone could have been provided. Front side of the hotel should have green lawn with flowers garden and the backyards of the hotel should have vegetables and fruits garden to support “Green & Organic Menu Practices”
6. Change and replace the room amenities on guest demand only and Use only organic room amenities.

### Conclusion

The first objective of the present study was to Identify various Eco Friendly Practices followed in Star Category Hotels. The findings revealed that solar panels are used for generating alternative source of energy, Using occupancy sensors which automatically detect the occupancy and then accordingly adjust the temperature of the premises, electronic key card is useful to save electricity as all the electrical equipment's in the guest room turned on only if

guest punch their electronic key card and they will switched off immediately as soon as guest take out there card from that slot, Energy efficient lighting system along with energy efficient appliances including Light emitting Diodes (LED) are very useful in saving energy. Linen Recycling, Using water sprinklers and Rain water harvesting, Water Recycling programmes and installing dual flush in toilets are the major water saving techniques. Eco friendly room amenities, recycling bins in guest rooms and wall fixed dispensers for dispensing various amenities such as shampoo and soap are few practices followed by hotels for reducing waste and implementing Green Menu Card and donating left over food to various NGOs prevent the wastage of food.

Second objective of the study was to analyse the Impact of Eco Friendly Practices on Consumers in the selection of star category hotels of NCR. The findings of second objective stated that Energy Efficient Lighting System, Energy Efficient Appliances and Rain Water Harvesting are the major practices that mostly influence consumers in the Eco Friendly Hotel Selection of Delhi NCR Region whereas Installing Dual Flush System in Washrooms and Installing Occupancy Sensors in Hotel Premises which has least influence consumers in the Eco Friendly Hotel Selection of Delhi NCR Region.

The third objective of the study was To suggest the measures for the enhancement of Eco friendly practices followed by star category hotels of NCR. The finding of the third objective revealed that Hotels must take green certification as it increases consumers trust towards Eco friendly hotels practices, Training of staff on sustainable practices should be Implemented, Best out of waste practices should be followed in hotels.

### Limitations and Suggestions for Future Research

The present research has three major limitations. Firstly, the survey was conducted during COVID pandemic; therefore, perceptions of respondents may vary during normal condition. Secondly, sample covered only 101 respondents, which is too small for highly populated country like India and therefore findings may vary if sample size could have been large. Thirdly, this study have



considered impact of Eco Friendly Practices on Consumers Followed by Star Category of Hotels only, therefore, findings cannot be generalised for other segments of Hotels such as Independent Properties, Heritage Hotels. Thus, future researches can be conducted on the impact of Eco Friendly Practices on Consumers followed by Heritage Hotels.

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