**ABSTRACT**

“A study of management of green/environment-friendly practices carried out by two to five star category hotels and resorts in Pune region (period of study 2002 to 2012)”

The hospitality industry is one of the biggest industries in the world. Hotels offer accommodation, restaurants, spa and wellness services, bars, restaurants, clubs and entertainment services, round the clock, for all the days of the year. This has a high environmental impact in terms of pollution, waste generation and greenhouse gases.

The movement towards sustainability has expanded across the globe, in all fields. Government & Non-Government organizations, corporations, as well as consumers are increasingly focusing on the need to exist in harmony with their surroundings, and reduce their environmental footprint. The concept of sustainability has begun to gain momentum in the hotel industry as well.

Modern day travelers have become conscious about their carbon footprint; and are increasingly being drawn to stay in hotels, which are environment conscious. Hence today, we find that a lot of hotels are incorporating green practices in their day to day operations, to cater to the need of these travelers, as well as to do their bit, for the environment.

Pune city is one of the most important cities in State of Maharashtra. There are a lot of corporates & business travellers stopping over for a few days. There have been many star category hotels belonging to multinational groups that have come up in Pune region in the new millennium.

This Study presents how green practices are managed by hotels and resorts in Pune region.

This study focuses on the following objectives & seeks to find out-

1. The extent of implementation of green practices in the hotel industry today.
2. The management involvement in implementation of these practices in two to five star hotel and resorts in Pune Region.
3. The various types of green /eco-friendly practices carried out in all operating
departments of the hotel such as Front Office, Housekeeping, Kitchen and Food & Beverage Service, as well as the allied areas.

4. Whether any special kind of training is given to the hotel staff to carry out these initiatives.

5. The degree of costs involved in implementing these practices initially.

6. Whether this investment in implementing these practices is justified, in terms of CSR initiatives, turnover & popularity of the hotels.

7. If in the long run, these initiatives end up being cost effective for the hotel operations, on the whole.

8. Whether the implementation of such practices is a deciding factor for customers to stay at such properties.

9. If there is government support for such kinds of environment-friendly initiatives carried out.

10. The various certifications existing for such practices globally as well as within the country and the number of hotels in this study that are aware of these and have applied for such certifications.

11. The effect of conducting such practices on the overall performance of the hotels.

The following five hypotheses are used to complete the research-

**First hypothesis**

The research analyses whether two to five star hotels and resorts in Pune have started implementing Green or Environment-friendly practices in their daily operations. It brings out how many hotels and resorts out of the ones surveyed are actually going green.

**Second hypothesis**

This studies whether the overall performance of the hotels has been positively affected after implementing these practices. This is in terms of reducing operating costs in hotels and resorts where green practices are implemented.
Third hypothesis
This investigates whether implementing such practices in hotels involves substantial costs, in terms of initial investment and recurring expenses.

Fourth hypothesis
This analyses if customers/guests staying in properties following green/eco-friendly practices are willing to participate in these initiatives.

Fifth hypothesis
This studies if customers/guests who stay in hotels are willing to pay extra money to be able to stay in hotels following green practices.

Chapter 1-Introduction
This chapter gives an overview of the hotel industry and its history in the world, major developments in America, Europe and India. It also explains the background of green practices in the hotel industry, and then relates these practices to Indian hotels and more specifically those in Maharashtra and Pune region. There is also a justification presented as to why the researcher chose to focus this study in Pune region. This chapter briefly touches on a few of the more known green hotel certifications that a hotel can apply for.

Chapter 2-Literature Review
This chapter traces previous studies on green or eco-friendly practices in Indian and international hotels. There is no specific review of green practices carried out in hotels in the Pune region. Hence general articles on green practices in hotels have been considered for study.
Chapter 3-Research Methodology

In this chapter, the methodology used for this particular research is covered. The various objectives of this research are stated, along with the hypothesis. Also the research design diagram (proposed model of research methodology) used to direct this research is mentioned. A pilot study was conducted, which helped to finalize the questionnaires.

There were three different questionnaires which were used while interviewing the different categories of respondents; namely- hotels, guests and travel agencies in Pune region.

Steps in Proposed Model of Research Methodology

1. Review of Literature
2. Pilot Study
3. Defining of Objectives
4. Formulation of Hypothesis
5. Sampling
6. Finalization of Questionnaires
7. Data Collection
8. Data Analysis & Testing of Hypothesis
9. Significance of Research

Chapter 4-Data Analysis and Interpretation

This chapter covers the analysis and interpretation of data that was collected through the interviewing the respondents and administering questionnaires. The tests used for this process are explained and the formulae used are mentioned. This chapter is divided into sections as per each questionnaire being analyzed.

Responses for every question in each questionnaire are analyzed and presented using a table and its resulting graph per question. This data is further used to test the hypothesis. Also, the co-relation or association of questions to logically reach certain findings was done, using the relevant test.
Tests used for data analysis-

1. Percentage
2. Mean, Median
3. Kruskal Wallis Test
4. Chi square Test for testing the significance of percentage

Test used for hypothesis testing

1. One sample proportion test.

A $p$ value of 0.05 or less was considered significant.

The hypothesis are tested as follows-

**H$_{i}$**: “Two star to Five Star category hotels and resorts in Pune region have started implementing green or environment-friendly practices in their daily operations.”

For the purpose of testing this hypothesis, there were three ways in which this hypothesis was defined-

1. The Null hypothesis ($H_{01a}$) and Alternate hypothesis ($H_{11a}$) were defined as under-
   - $H_{01a}$. Majority of the hotels and resorts do not follow eco-friendly practices in daily operations.
   - $H_{11a}$. Majority of the hotels and resorts follow eco-friendly practices in daily operations.

2. $H_{01b}$. Majority of the hotels and resorts do not have one or more individuals within the organization delegated with the responsibility of managing the environment-related issues.
   - $H_{11b}$. Majority of the hotels and resorts have one or more individuals within the organization delegated with the responsibility of managing the environment-related issues.

3. $H_{01c}$. Majority of the hotels and resorts do not feel the necessity of having training
programs conducted for implementation of green practices. 

H$_{11c}$. Majority of the hotels and resorts feel the necessity of having training programs conducted for implementation of green practices.

Rejection of Null hypothesis and acceptance of Alternative hypothesis indicates that majority of the hotels and resorts in Pune region follow eco-friendly practices in daily operations, have one or more individuals within the organization delegated with the responsibility of managing the environment-related issues and feel the necessity of having training programs conducted for implementation of green practices.

So, we accept H$_1$.

H$_2$. “The overall performance of the hotels has been positively affected after implementing these practices.”

For the purpose of testing this hypothesis, the Null Hypothesis (H$_{02}$) and Alternate Hypothesis (H$_{12}$) were defined as under-

H$_{02}$. Majority of the respondents think that the overall performance of the hotels has not been positively affected after implementing these practices.

H$_{12}$. Majority of the respondents think that the overall performance of the hotels has been positively affected after implementing these practices.

Rejection of Null hypothesis and acceptance of Alternate hypothesis indicates that majority of the respondents think that the overall performance of the hotels has been positively affected after implementing these practices.

So we accept H$_2$.

H$_3$. “Implementing such practices in hotels involves substantial costs”.

For the purpose of testing this hypothesis, there were two ways in which this hypothesis was defined-

1. The Null Hypothesis (H$_{03a}$) and Alternate Hypothesis (H$_{13a}$) were defined as under-
H\textsubscript{03a}- Majority of the hotels do not incur expenditure annually for implementation of these practices  
H\textsubscript{13a}- Majority of the hotels incur expenditure annually for implementation of these practices  

2. The Null Hypothesis (H\textsubscript{03b}) and Alternate Hypothesis (H\textsubscript{13b}) were defined as under-  
H\textsubscript{03b}- Majority of the hotels have not made initial investment at the time of construction of the property for environment-friendly norms.  
H\textsubscript{13b}- Majority of the hotels made initial investment at the time of construction of the property for environment-friendly norms.  

Acceptance of Null hypothesis and rejection of Alternate hypothesis indicates that majority of the respondents do not incur annual expenditure for the implementation of these practices and also have not made initial investment at the time of construction of the property for environment-friendly norms. This further indicates that majority of the hotels feel that implementing such practices in hotels does not involve substantial costs.  
So, we reject H\textsubscript{3}.  

H\textsubscript{04}- “Customers/Guests staying in properties following green/eco-friendly practices are willing participants in these initiatives.”  
For the purpose of testing this hypothesis, the Null Hypothesis (H\textsubscript{04}) and Alternate Hypothesis (H\textsubscript{14}) were defined as under-  
H\textsubscript{04}- Majority of the “Customers/Guests staying in properties following green/eco-friendly practices are not willing participants in these initiatives.”  
H\textsubscript{14}- Majority of the “Customers/Guests staying in properties following green/eco-friendly practices are willing participants in these initiatives.”  
Acceptance of Null hypothesis and rejection of Alternate hypothesis indicates that majority of the Customers/Guests staying in properties following green/eco-friendly practices are not willing participants in these initiatives.  
So, we reject H\textsubscript{4}.  

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**H5.** “Customers/Guests are willing to pay extra money to be able to stay in hotels following green practices.

For the purpose of testing this hypothesis, the Null Hypothesis (H₀₅) and Alternate Hypothesis (H₁₅) were defined as under-

H₀₅. Majority of the Customers/Guests are not willing to pay extra money to be able to stay in hotels following green practices.
H₁₅. Majority of the “Customers/Guests are willing to pay extra money to be able to stay in hotels following green practices.

Acceptance of Null hypothesis and rejection of Alternate hypothesis indicates that majority of the respondents are not willing to pay extra money to be able to stay in hotels following green practices.
So, we reject H₅.

After testing of all hypotheses, the results are summarized in the table below.

**Summary of Hypothesis Testing**

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Hypothesis</th>
<th>Accept/Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>H₄. “Two star to Five Star category hotels and resorts in Pune region have started implementing green or environment-friendly practices in their daily operations.”</td>
<td>Accept</td>
</tr>
<tr>
<td>2.</td>
<td>H₂. “The overall performance of the hotels has been positively affected after implementing these practices.”</td>
<td>Accept</td>
</tr>
<tr>
<td>3.</td>
<td>H₃. “Implementing such practices in hotels involves substantial costs”</td>
<td>Reject</td>
</tr>
<tr>
<td>4.</td>
<td>H₄. “Customers/Guests staying in properties following green/eco-friendly practices are willing participants in these</td>
<td>Reject</td>
</tr>
</tbody>
</table>
5. $H_5$: “Customers/Guests are willing to pay extra money to be able to stay in hotels following green practices.  

Reject

Chapter 5-Findings, Suggestions and Recommendations

This chapter presents the findings from this study in three parts- from Hotels, Guests and Travel agencies.

Suggestions and recommendations for hotels and decision-making bodies like the State Government and Mahratta Chamber of Commerce and Industries are presented.

Chapter 6-Conclusions

This chapter summarizes the conclusions arrived at during the course of this study. Although most hotels from Pune region that participated in this survey; as well as guests were aware of green practices, not many implement them or participate in them completely.

Implementing green practices in hotels will help to conserve the environment, and also help the hotels save money over a period of time, thus adding to their profits.