

COMPARATIVE STUDY OF GREEN & TRADITIONAL NON GREEN CLEANING PRODUCTS WITH REFERENCE TO PUNE HOTELS

Honey Tyagi*

Manoj Suryawanshi*

Abstract:

Cleaning products are the first priority of the hospitality industry. It helps to maintain the hygiene and cleanliness in the hotel to provide the better atmosphere and enhancing the standard of the hotel. Varieties of cleaning products are available in the hotels. The use of the cleaning products based upon its characteristics, easy to use and its quality. The long lasting impact should be there by the use of cleaning products on any one of the areas of the hotel. As per the data collected by the author which proves that most of the five star hotels are preferably using traditional non green cleaning products as compared with green cleaning products. They are aware about the use and the benefits of the green cleaning agents. However they are not fully diverted towards green cleaning products as such. Only one or two brands of green cleaning products are used by the majority of hotels. Whereas traditional cleaning products are occupied the space in almost all the hotels. Hotel selects cleaning products on various factors Price, Availability, Well-known brand, Fragrance, Versatility in use, Composition of chemicals in cleaning agents, ease of use, Saves efforts and time, Toxicity and Quality Cleaning. As per the conclusion of the paper most of the Hotels prefers combination of Green products and Traditional Non green products.

Keywords:- Cleaning, Fragrance, Products, Traditional, Versatility

*** Assistant Professor, AISSMS College of Hotel Management and Catering Technology, Pune, Maharashtra**

a) Cleaning: -**Cleaning to clean** is the general word with no implication of method or means: to **clean** windows, a kitchen, and streets. Cleanse is especially used of thorough **cleaning** by chemical or other technical process.

b) Fragrance: - A fragrance is a pleasant or sweet smell

c) Products: -An article or substance that is manufactured or refined for sale.

d) Traditional: -Existing in or as part of a tradition; long-established

e) Versatility: - The quality or state of being **versatile**

1) **Introduction:**

The housekeeping staffs needs to clean various guest rooms, guest bathrooms, and a number of public areas in the hotel. The staff needs to take the help of various cleaning equipment and cleaning agent while trying to keep the hotel premises to the highest standard of appearance. Efficient cleaning and maintenance are dependent upon high-quality cleaning agent & equipment, correctly using. Though only 5-10% of the overall cost incurred on cleaning is accounted for by cleaning agents, selecting the ideal agent and equipment plays a major role in the cleaning process. There will often be several ways of carrying out any particular cleaning task by using different types of cleaning agents & equipment that can be employed for it. It is the executive housekeeper's responsibility to procure the most appropriate cleaning agent according to the hotel's requirement. Currently Hotel is shifting to use Eco-friendly products which are nontoxic, biodegradable and harmless to the employees' health. Over the years our views on tradition non green cleaning products have changed. It used to be accepted that cleaners using toxic ingredients and harsh chemicals were the only way to get grime off of toilets, kitchen counters and floors. These were also the only things that could clean your laundry to give them that shiny and fresh clean scent. After all, there were no other options. Green cleaning products just didn't quite seem to do the trick and tended to leave your areas with a less than fresh smell. However, with new reports from The EPA and National Geographic, many are beginning to realize that this however, is not the case. Over the past several years there has been a dramatic

rise in number of people looking towards natural oils and substances such as Citrus oil, vinegar, beeswax, cleaning salt, coconut oil, baking soda, lavender and rosemary to remove grime and bacteria. Few star Hotels are using these natural substances to create effortless Cleaning products that don't require time and effort to make yourself and clean equally as well as those traditional cleaners. Many of these products are not only better for your health and safe for employees, but they're also environmentally friendly. The correct choice of quality cleaning agent could save costs due to effectiveness of cleaning at once instead repetition of doing same job again and again. This reduces employee's energy, reduces fatigue and also ensures overall efficiency in operations. Through the use of green cleaning products and janitorial supplies, your impact on the environment and the impact on the health of your building occupants and cleaning people is minimized. It is also critical to meet sanitation requirements, the appearance and other considerations associated with green cleaning.

2) Need of the study:

As per the changing trends in housekeeping operations, there is a need to change the products also which use for cleaning in hotels. In today's world people are more conscious about their health and safety. They always look forward to the better and safe product. This study is based upon the perspective of the hotel management for using Green cleaning products Vs. Traditional non green cleaning products at hotels. This study will really help the hotelier to think upon the better use of Green products or Traditional Non Green products and how it would help to increase the efficiency and saves the employee energy.

3) Scope of the study:

We have considered hotels of Pune and the perspective of Executive Housekeeper and Housekeeping Manager has been taken in the study as they are the decision makers to procure cleaning agents in Hotel.

4) Review of Literature:

Green Prophet Guest (2015) In this article author is trying to say that green practice initiative save the environment, which helps to spread awareness and minimize the use of nontoxic products. It also increases the occupancy of the hotels. Green practices give a new sense of

thinking to the people. It is also a responsibility of the hospitality to think about social responsibility towards guest and the staff.

Clayton Blog (2012) Green products usually come at a higher price point and works better as compared with traditional non green products. Green products are continually improving however. Green products won't damage surfaces over time like traditional products can and they are also better for the environment. They also have no harmful effects if you accidentally come in contact with them to your skin or eyes. In the long-term, you are less exposed to toxins which are better for your health.

Xiaobo Quan, Ph.D., Anjali Joseph, Ph.D., Matthew Jelen (2011) Green cleaning is a new, promising approach to environmental cleaning that aims at reducing harm to human health and the environment The conceptual framework takes a systemic approach toward green cleaning.

Kidwell Cleaning blog (2009) Green Cleaning means using non-toxic, biodegradable cleaning products. Green products cannot have a disinfectant in them what so ever. "Green Seal" labelled products are products that have passed the government standards that qualify a product for being truly green. Keep in mind though that there are many independent organizations out there as well that qualify products for being green. The advantages of going green are that the impact on the environment and the person cleaning with the product is substantially less than the traditional cleaning product.

Baker and Davis (2009) The hospitality and tourism industry is under pressure to become more environmentally friendly as a result of consumer demand, environmental regulation, and managerial concerns based on ethics as well as economics. Linen and towel reuse policies are now commonplace, the students note, while low-flow showers and toilets, programmable on/off light sensors, and occupancy sensor controls for guestroom thermostats have been installed by many hotel companies. In addition, most major hotel companies have created green mission statements or LEED-certified green hotels.

Dan Ruben, Executive Director, Boston Green Tourism (2007) Many hotels are turning to green cleaning products and practices to improve indoor air quality, reduce risk to building

occupants, improve environmental performance and obtain a marketing advantage. This report is intended to help hoteliers determine whether to follow suit at their properties and how to do so.

The Eastern Bag and Paper Groups: Green cleaning products promotes a healthier working environment by improving indoor air quality - Enhances safety for Housekeeping staff and Guests - Improves employee retention - Reduces liability, legal costs, and insurance - Helps organizations meet green purchasing mandates - Reduces cleaning and product costs - Add value and marketability to buildings - Decreases an organizations environmental and health impacts - Improves brand equity - Can be easily implemented without major or costly changes.

5) Objectives of the study:

To study the use of Green and Non Green traditional Cleaning Products

To identify the reasons for using green and Traditional Non Greencleaning products

To compare the reason for selecting the Green cleaning and Traditional non Green cleaning products.

6) Research Methodology

Sources of Data:

Secondary data was collected from published/unpublished literature on green cleaning products Vs traditional cleaning products, latest references available from the journals, newspapers, research publications and magazines, and other relevant sources like internet.

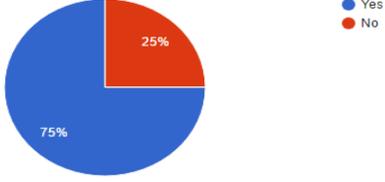
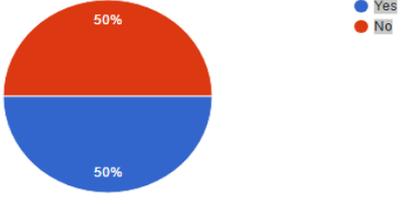
Primary data is collected from the universe of Pune Hotels.

Collection of Data:

The data required for the research was collected using the following techniques:

- **Questionnaire:** A questionnaire was drafted constituting straight forward and relevant questions and circulated over to the sample to obtain their responses.
- **Sampling:** The sample was collected from Executive Housekeeper, Assistant Housekeeper and Housekeeping Manager of Housekeeping department of star category Hotels of Pune city as they are majorly involved in selecting Cleaning products.

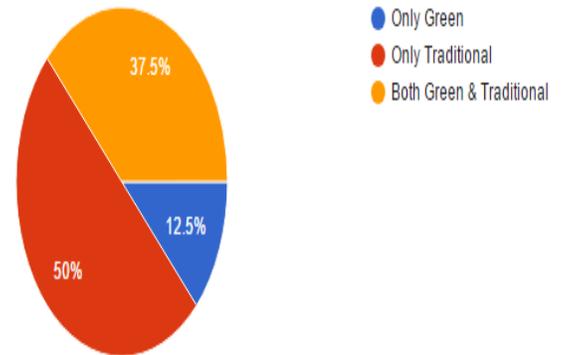
7) **Data Analysis:****Primary Data and Interpretation**

<p>1) Awareness about Green Cleaning Products</p>	 <p>75% 25%</p> <p>● Yes ● No</p>
<p>2) Practice of Green Cleaning products in Hotel for cleaning.</p> <p><u>Interpretation</u>It has been observed 50% Hotels practices Green Cleaning products and 50% are using Non Green products for cleaning.</p>	 <p>50% 50%</p> <p>● Yes ● No</p>
<p>3) Traditional Non green cleaning products are used in hotel.</p> <p><u>Interpretation</u></p> <p>In this study, it has been observed that most of the star Hotels are using Diversey brand Cleaning products Range-Taski R series, Sealed Air Diversey and also uses Harpic, General Liquid Soap for cleaning.</p>	
<p>4) Green Cleaning products are used in hotel.</p> <p><u>Interpretation</u></p> <p>As per the responses received, It is found that few Hotel uses Green cleaning products of Ecolab brand and also Uro-clean (bioactive urinal drain cleaner).</p>	

5) Type of Cleaning Product mostly used in Hotel

Interpretation

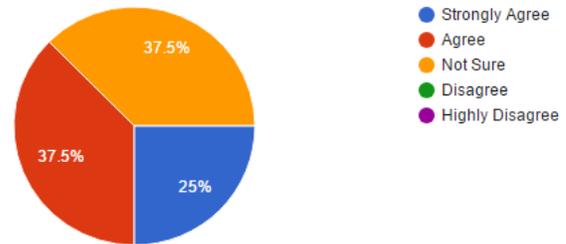
The analysis reflects that only 12.5% Hotels are using only green products and 50% of Hotels are using traditional non green products and 12.5% of Hotels uses combination of Green and traditional Non green products.



6) Cleaning Effectiveness of Green products

Interpretation

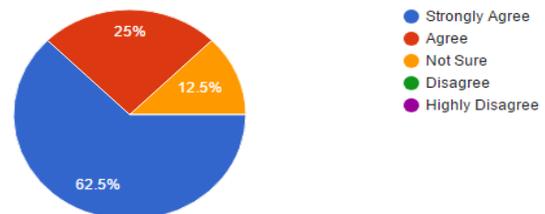
In this study, it has been observed that majority of Hotels agree that green products are effective in cleaning. Only 37.5% are not sure on the effectiveness of cleaning of Green Products. However no one disagree on the cleaning effectiveness of Green products.



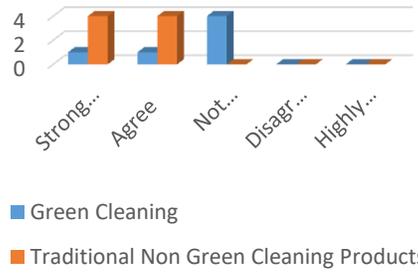
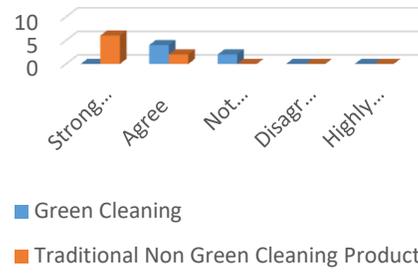
7) Cleaning Effectiveness of Traditional Non green products.

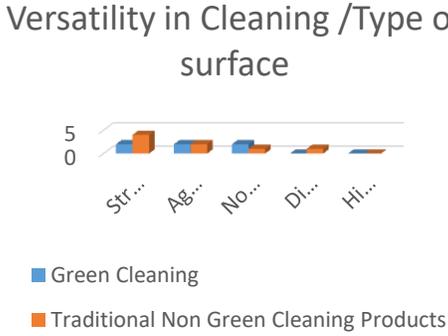
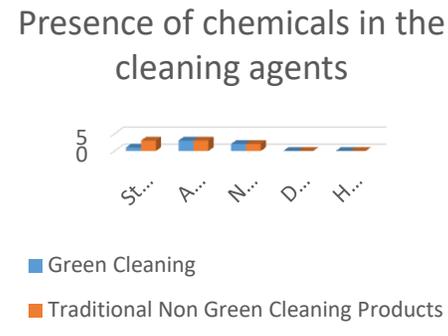
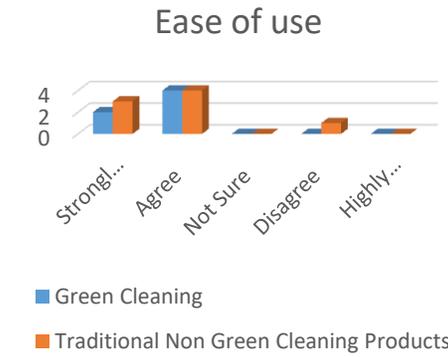
Interpretation

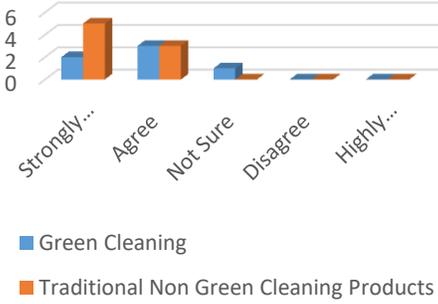
The analysis reflects that majority of the Hotels strongly agree that traditional non green products are effective in cleaning and only 12.5% are not sure on its effectiveness. However no one disagree on the cleaning effectiveness of traditional non green



<p>products.</p>																			
<p>8) Reasons for Selecting Traditional Non Green cleaning Products Versus Green Cleaning Products</p>																			
<p>a)As per the above chart, the study represents that, Traditional Non Green Cleaning products are low in cost than Green Cleaning products.</p>	 <table border="1"> <caption>Low Price/Cost</caption> <thead> <tr> <th>Response</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Agree</td> <td>1</td> <td>4</td> </tr> <tr> <td>Not Sure</td> <td>3</td> <td>2</td> </tr> <tr> <td>Disagree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Highly Disagree</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Response	Green Cleaning	Traditional Non Green Cleaning Products	Strongly Agree	1	1	Agree	1	4	Not Sure	3	2	Disagree	1	1	Highly Disagree	1	1
Response	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongly Agree	1	1																	
Agree	1	4																	
Not Sure	3	2																	
Disagree	1	1																	
Highly Disagree	1	1																	
<p>b) As per the above chart, the study represents that, Green Cleaning products are high in cost than traditional Non Green Cleaning products.</p>	 <table border="1"> <caption>High Price/Cost</caption> <thead> <tr> <th>Response</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>2</td> <td>1</td> </tr> <tr> <td>Agree</td> <td>2</td> <td>1</td> </tr> <tr> <td>Not Sure</td> <td>1</td> <td>6</td> </tr> <tr> <td>Disagree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Highly Disagree</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Response	Green Cleaning	Traditional Non Green Cleaning Products	Strongly Agree	2	1	Agree	2	1	Not Sure	1	6	Disagree	1	1	Highly Disagree	1	1
Response	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongly Agree	2	1																	
Agree	2	1																	
Not Sure	1	6																	
Disagree	1	1																	
Highly Disagree	1	1																	
<p>c) As per the above chart, it represents that, Traditional Non Green Cleaning products are reasonably priced than Green Cleaning products.</p>	 <table border="1"> <caption>Reasonably Priced</caption> <thead> <tr> <th>Response</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Agree</td> <td>1</td> <td>6</td> </tr> <tr> <td>Not Sure</td> <td>4</td> <td>1</td> </tr> <tr> <td>Disagree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Highly Disagree</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Response	Green Cleaning	Traditional Non Green Cleaning Products	Strongly Agree	1	1	Agree	1	6	Not Sure	4	1	Disagree	1	1	Highly Disagree	1	1
Response	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongly Agree	1	1																	
Agree	1	6																	
Not Sure	4	1																	
Disagree	1	1																	
Highly Disagree	1	1																	

<p>d) The above chart shows that Traditional Non Green Cleaning Products are easily available than Green Cleaning products.</p>	<h3 style="text-align: center;">Easily Available</h3>  <table border="1"> <caption>Data for Easily Available</caption> <thead> <tr> <th>Response</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>1</td> <td>4</td> </tr> <tr> <td>Agree</td> <td>1</td> <td>4</td> </tr> <tr> <td>Not Sure</td> <td>4</td> <td>1</td> </tr> <tr> <td>Disagree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Highly Disagree</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Response	Green Cleaning	Traditional Non Green Cleaning Products	Strongly Agree	1	4	Agree	1	4	Not Sure	4	1	Disagree	1	1	Highly Disagree	1	1
Response	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongly Agree	1	4																	
Agree	1	4																	
Not Sure	4	1																	
Disagree	1	1																	
Highly Disagree	1	1																	
<p>e) The above chart indicates that both type of cleaning products prefer well-known brand in selecting products.</p>	<h3 style="text-align: center;">Well-known Brand</h3>  <table border="1"> <caption>Data for Well-known Brand</caption> <thead> <tr> <th>Response</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>1</td> <td>8</td> </tr> <tr> <td>Agree</td> <td>5</td> <td>3</td> </tr> <tr> <td>Not Sure</td> <td>3</td> <td>1</td> </tr> <tr> <td>Disagree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Highly Disagree</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Response	Green Cleaning	Traditional Non Green Cleaning Products	Strongly Agree	1	8	Agree	5	3	Not Sure	3	1	Disagree	1	1	Highly Disagree	1	1
Response	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongly Agree	1	8																	
Agree	5	3																	
Not Sure	3	1																	
Disagree	1	1																	
Highly Disagree	1	1																	
<p>f) The above chart indicates that both type of cleaning products agree to prefer products which includes fragrance in selecting products.</p>	<h3 style="text-align: center;">Fragrance</h3>  <table border="1"> <caption>Data for Fragrance</caption> <thead> <tr> <th>Response</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>1</td> <td>8</td> </tr> <tr> <td>Agree</td> <td>8</td> <td>2</td> </tr> <tr> <td>Not Sure</td> <td>1</td> <td>1</td> </tr> <tr> <td>Disagree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Highly Disagree</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Response	Green Cleaning	Traditional Non Green Cleaning Products	Strongly Agree	1	8	Agree	8	2	Not Sure	1	1	Disagree	1	1	Highly Disagree	1	1
Response	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongly Agree	1	8																	
Agree	8	2																	
Not Sure	1	1																	
Disagree	1	1																	
Highly Disagree	1	1																	
<p>g) The above chart indicates that both type of cleaning products agree to prefer products as per the type of soiling in selecting products.</p>	<h3 style="text-align: center;">Type of Soiling</h3>  <table border="1"> <caption>Data for Type of Soiling</caption> <thead> <tr> <th>Response</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>1</td> <td>4</td> </tr> <tr> <td>Agree</td> <td>4</td> <td>2</td> </tr> <tr> <td>Not Sure</td> <td>1</td> <td>2</td> </tr> <tr> <td>Disagree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Highly Disagree</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Response	Green Cleaning	Traditional Non Green Cleaning Products	Strongly Agree	1	4	Agree	4	2	Not Sure	1	2	Disagree	1	1	Highly Disagree	1	1
Response	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongly Agree	1	4																	
Agree	4	2																	
Not Sure	1	2																	
Disagree	1	1																	
Highly Disagree	1	1																	

<p>h) As per the above chart, it represents that, Traditional Non Green Cleaning products are more versatile in cleaning the different types of surface than Green Cleaning products.</p>	<h3 style="text-align: center;">Versatility in Cleaning /Type of surface</h3>  <table border="1"> <caption>Versatility in Cleaning /Type of surface</caption> <thead> <tr> <th>Response</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>1</td> <td>3</td> </tr> <tr> <td>Agree</td> <td>1</td> <td>2</td> </tr> <tr> <td>Not Sure</td> <td>1</td> <td>1</td> </tr> <tr> <td>Disagree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Highly Disagree</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Response	Green Cleaning	Traditional Non Green Cleaning Products	Strongly Agree	1	3	Agree	1	2	Not Sure	1	1	Disagree	1	1	Highly Disagree	1	1
Response	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongly Agree	1	3																	
Agree	1	2																	
Not Sure	1	1																	
Disagree	1	1																	
Highly Disagree	1	1																	
<p>i) As per the above chart, it represents that, Traditional Non Green Cleaning products contain more chemicals than Green Cleaning products.</p>	<h3 style="text-align: center;">Presence of chemicals in the cleaning agents</h3>  <table border="1"> <caption>Presence of chemicals in the cleaning agents</caption> <thead> <tr> <th>Response</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>1</td> <td>2</td> </tr> <tr> <td>Agree</td> <td>1</td> <td>2</td> </tr> <tr> <td>Not Sure</td> <td>1</td> <td>1</td> </tr> <tr> <td>Disagree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Highly Disagree</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Response	Green Cleaning	Traditional Non Green Cleaning Products	Strongly Agree	1	2	Agree	1	2	Not Sure	1	1	Disagree	1	1	Highly Disagree	1	1
Response	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongly Agree	1	2																	
Agree	1	2																	
Not Sure	1	1																	
Disagree	1	1																	
Highly Disagree	1	1																	
<p>j) As per the above chart, it represents that, Traditional Non Green Cleaning products are easy to use than Green Cleaning products.</p>	<h3 style="text-align: center;">Ease of use</h3>  <table border="1"> <caption>Ease of use</caption> <thead> <tr> <th>Response</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>2</td> <td>3</td> </tr> <tr> <td>Agree</td> <td>3</td> <td>3</td> </tr> <tr> <td>Not Sure</td> <td>1</td> <td>1</td> </tr> <tr> <td>Disagree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Highly Disagree</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Response	Green Cleaning	Traditional Non Green Cleaning Products	Strongly Agree	2	3	Agree	3	3	Not Sure	1	1	Disagree	1	1	Highly Disagree	1	1
Response	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongly Agree	2	3																	
Agree	3	3																	
Not Sure	1	1																	
Disagree	1	1																	
Highly Disagree	1	1																	
<p>k) As per the above chart, it represents that, Traditional Non Green Cleaning products saves efforts while cleaning than Green Cleaning products.</p>	<h3 style="text-align: center;">Saving of efforts</h3>  <table border="1"> <caption>Saving of efforts</caption> <thead> <tr> <th>Response</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>3</td> <td>5</td> </tr> <tr> <td>Agree</td> <td>1</td> <td>3</td> </tr> <tr> <td>Not Sure</td> <td>2</td> <td>1</td> </tr> <tr> <td>Disagree</td> <td>1</td> <td>1</td> </tr> <tr> <td>Highly Disagree</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Response	Green Cleaning	Traditional Non Green Cleaning Products	Strongly Agree	3	5	Agree	1	3	Not Sure	2	1	Disagree	1	1	Highly Disagree	1	1
Response	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongly Agree	3	5																	
Agree	1	3																	
Not Sure	2	1																	
Disagree	1	1																	
Highly Disagree	1	1																	

<p>l) As per the above chart, it represents that, Traditional Non Green Cleaning products saves time while cleaning as compared to Green Cleaning products</p>	<p style="text-align: center;">Saves time</p>  <table border="1"> <caption>Data for 'Saves time' chart</caption> <thead> <tr> <th>Response Category</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongly...</td> <td>2</td> <td>5</td> </tr> <tr> <td>Agree</td> <td>3</td> <td>3</td> </tr> <tr> <td>Not Sure</td> <td>1</td> <td>1</td> </tr> <tr> <td>Disagree</td> <td>0</td> <td>0</td> </tr> <tr> <td>Highly...</td> <td>0</td> <td>0</td> </tr> </tbody> </table>	Response Category	Green Cleaning	Traditional Non Green Cleaning Products	Strongly...	2	5	Agree	3	3	Not Sure	1	1	Disagree	0	0	Highly...	0	0
Response Category	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongly...	2	5																	
Agree	3	3																	
Not Sure	1	1																	
Disagree	0	0																	
Highly...	0	0																	
<p>m) As per the above chart, it represents that, Green Cleaning products are less toxic and has less side effects as compared to Traditional Non Green Cleaning products.</p>	<p style="text-align: center;">Toxicity or side effects</p>  <table border="1"> <caption>Data for 'Toxicity or side effects' chart</caption> <thead> <tr> <th>Response Category</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongl...</td> <td>1</td> <td>2</td> </tr> <tr> <td>Agree</td> <td>1</td> <td>3</td> </tr> <tr> <td>Not Sure</td> <td>3</td> <td>1</td> </tr> <tr> <td>Disagree</td> <td>0</td> <td>1</td> </tr> <tr> <td>Highly...</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Response Category	Green Cleaning	Traditional Non Green Cleaning Products	Strongl...	1	2	Agree	1	3	Not Sure	3	1	Disagree	0	1	Highly...	1	1
Response Category	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongl...	1	2																	
Agree	1	3																	
Not Sure	3	1																	
Disagree	0	1																	
Highly...	1	1																	
<p>n) The above chart indicates that both type of cleaning products agree to provide quality cleaning.</p>	<p style="text-align: center;">Quality cleaning</p>  <table border="1"> <caption>Data for 'Quality cleaning' chart</caption> <thead> <tr> <th>Response Category</th> <th>Green Cleaning</th> <th>Traditional Non Green Cleaning Products</th> </tr> </thead> <tbody> <tr> <td>Strongl...</td> <td>2</td> <td>3</td> </tr> <tr> <td>Agree</td> <td>2</td> <td>2</td> </tr> <tr> <td>Not Sure</td> <td>1</td> <td>1</td> </tr> <tr> <td>Disagree</td> <td>0</td> <td>0</td> </tr> <tr> <td>Highly...</td> <td>0</td> <td>0</td> </tr> </tbody> </table>	Response Category	Green Cleaning	Traditional Non Green Cleaning Products	Strongl...	2	3	Agree	2	2	Not Sure	1	1	Disagree	0	0	Highly...	0	0
Response Category	Green Cleaning	Traditional Non Green Cleaning Products																	
Strongl...	2	3																	
Agree	2	2																	
Not Sure	1	1																	
Disagree	0	0																	
Highly...	0	0																	

8) Conclusions:

The findings of the research can be concluded as under:

- a. Majority of the star hotels using Traditional Non green Cleaning products and mostly the Diversey brand cleaning products range has been used in Hotels.
- b. Only Green products are used in very few Hotels. However, most of the Hotels prefers combination of Green products and Traditional Non green products.

c. Traditional Non Green products are more effective in cleaning as compared to Green products.

d. Hotel selects cleaning products on various factors Price, Availability, Well-known brand, Fragrance, Versatility in use, Composition of chemicals in cleaning agents, ease of use, Saves efforts and time, Toxicity and Quality Cleaning.

9) Limitations:

1. First of all, the sample does not cover entire strata of population from Pune. However, the sample chosen has a combination of various star categories of Hotels.
2. This study is purely based on the information provided by the Housekeepers of sample hotels.

10) Scope for Further Study

Further study can be done on the following:

1. Impact of using Traditional Non Green Cleaning products on the users.
2. Impact of using Green Products on users.

11) Bibliography & References:

- 1) Alexandra Bruns-Smith, Vanessa Choy, Howard Chong, and Rohit Verma (2015) Environmental Sustainability in the Hospitality Industry: Best Practices, Guest Participation, and Customer Satisfaction
- 2) Green Phophet Guest (2015),
28 ideas for hotel management to upgrade as eco, without huge costs
- 3) Eun Ha Jeong, Su Cheong Jang (2010) Effects of Restaurant Green Practices: which practices are important and effective?
- 4) (2009) Efficacy of "Green" Cleaning Products with Respect To Common Respiratory Viruses and Mold Growth, Journal of Environmental Health, 71.9: 24-7; quiz 35.
- 5) Sawchuk, Mike. (Mar 2009) Green Cleaning, Professional, 54.3: 42-45.
- 6) (2009) Green practices and hotels: a gap in consumer attitudes and behaviour
- 7) Michelle Millar (2008) Hotel Guest Preferences for green hotel attributes, University of San Francisco

- 8) Goggins, Rick. (Mar 2007), Hazards of Cleaning, Professional Safety, 52.3, 20-27.
- 9) Wansink, Brian (Nov 2003): How Resourceful Consumers Identify New Uses for Old Products, Journal of Family and Consumer Sciences, 95.4, 109-113.
- 10) Iwanowski, Kirk; Rushmore, Cindy (Feb 1994): Introducing the eco-friendly hotel
- 11) Cornell Hotel and Restaurant Administration Quarterly, 35.1, 34.
- 12) Cleaning for Health: Products and Practices for a Safer Indoor Environment, Alicia Culver, Marian Feinberg, David Klebenov, Judy Musnikow, Lara Sutherland, INFORM, Inc., 2002,
- 13) www.informinc.org/reportpdfs/chp/CleaningForHealth.pdf. Green Cleaning, A Roadmap for Implementation, Steve Ashkin, Executive Director, Green Cleaning Network,
- 14) www.facilitiesnet.com/webcasts/details.asp?id=14982. This is a free, 75-minute webcast. GS-42 Green Seal Environmental Standard for Cleaning Services, First Edition, September 1, 2006,
- 15) www.green Seal.org/certification/cleaning_services_gs_42.pdf. Managing Housekeeping Operations, American Hotel & Lodging Educational Institute (EI).
- 15) www.eiacademic.com/productview.aspx?id=21146&terms=Managing+Housekeeping+Operations. See the chapter on green housekeeping
- 16) www.ct.gov/deep/lib/deep/p2/business_industry/.../green_cleaning_for_hotels.pdf