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**Abhinav National Monthly Refereed Journal of Research in  
Commerce & Management****"Eco-Purchasing": A Study of the Solid Waste Prevention  
Methods adopted by Hotels and Restaurants of Pune City****Dr. Seema Zagade<sup>1</sup>**

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Technology, Savitribai Phule Pune University, Pune, India**ABSTRACT**

*Eco- Purchasing is a key activity in eliminating waste and helps in increasing in profit and reduces cost (Amemba, 2013). It is one of the essential steps in waste reduction method. If systematically implemented the Eco-Purchasing can be the most effective solution in fighting against the growing problem of solid waste disposal. In India around 75% of the total Hotel accounts for unorganized/ small budget hotels, which normally faces financial constraints to invest in environmentally friendly technology and products (Dwivedi, 2016 ). Depending on the type of organisation the eco-purchasing practices can be drafted which will suite the need of the organisation Eco- Purchasing can contribute in lowering the negative impact on environment by minimizing waste, since it works on the principle of dissimulation of products in advance so that it can be recycled after use (Sloan et al ,2008).*

*The current study finds out the Eco- Purchasing practices followed by the Hotels and Restaurants of Pune city. The Data is collected by circulating a well-structured questionnaire to all the Purchasing Managers of the hotel and Restaurants. The study reveals that lot has to be done in this eco-purchasing practices and the employees need to be made aware about its importance and should be trained to practice those in day to day work, as though the awareness percent about solid waste and solid waste management is 96.1% and 78.9% respectively but they are still do not understand the importance of Purchasing policy, Eco- Purchasing concept, role of Suppliers etc. This could work if the management frames effective purchasing policy covering all aspects of Eco- purchasing.*

**Keywords:** Eco-Purchasing, Solid Waste Management, Purchasing Practices, Waste Reduction, Recycling, Purchasing Policy

**INTRODUCTION**

Hospitality industry is one of the most important sectors in world's economy, which is pouring in millions of dollars in the pockets of developing as well as developed countries. But as the industry is expanding its roots it is also uprooting the sustainability of the land; creating threat for fertility of soil as well as global warming and environmental pollution leading to health hazards and problems (Alexander 2002,).

The major problem which every industry is facing today is about solid waste disposal. Tons and tons of solid waste is getting accumulated on the landfills leading to pollution of land water and air. As per Times of India article 2012 under sustainability outlook issue, Pune city generates 1300 metric tons of

solid waste per day and the amount is growing day by day as population is increasing. Disposal of the solid waste is also becoming a burning issue as the dumping area is not available and currently the garbage is disposed off in place call Urali Devachi and Phursungi and there is lot of unrest among the local residents due to rising environmental issue and health problems.

Even hospitality industry is also facing the heat of being the 'Bulk Generator' of Solid Waste as this industry majorly uses the paper, plastic, metal, glass, packaging material and disposables made out of thermocol. The use of all this material in their day to day activity leads to the piling up of garbage in the form of wet and dry solid waste which is mostly mixed together. This mixed nature of solid waste when dumped on the landfills gives off poisonous gases and leachates which results in the pollution of environment. In last two decades the awareness and realization in adverse effect of solid waste and its growing problem has made this industry to deal with it in a scientific manner. Many researches has shown that this problem of waste needs to be systematically solved by following the major 5 R Concepts namely: Rethink, Reduce, Reuse, Recycle and Reassess. This concept if systematically implemented can be an effective way of dealing with the problem. Out of the above the first 'Rethink' concept deals guide us to think before we actually purchase a particular item. Keeping in view our requirement, its need, and ultimately the disposal, it is very important to understand whether a particular item need to be purchased. Here is where the role of 'Purchasing comes into the picture. The importance of sensible or eco- friendly purchasing which assures the environmental concern can be practiced to deal with the increasing problem of solid waste disposal. Even hospitality sector can be the one who can be a lead in such activity wherein they can adopt the effective Eco-purchasing practices to deal with the problem. The attempts are being done by the hospitality industry.

The best example is of the first Ecotel in Asia. Deb & Welling (2011), critically reviews the linkage of sustainability into business as an emerging phenomenon of The Orchid Hotel, Mumbai holds five-globe Ecotel certified status. In its attempt to become 'Zero Garbage' Hotel, The Orchid hotel, Mumbai, apart from vermiculture composting of kitchen waste, it has successfully reduced 30% of incoming packaging material and purchase all paper products with at least 50% recycled content. This has been achieved through regularly coordinating and screening of suppliers to ensure fulfillment of hotel's stringent environmental policies.

Purchasing is a key activity in eliminating waste. Green purchasing can improve a firm's economic position by reducing disposal and liability costs, conserving resources and improving organizations public image. It has been observed that many of the hospitality sectors has already adapting eco-purchasing methods. The only issues they face and are two most highly rated obstacles to effective implementing green purchasing is cost and revenue. It is believed that most of the products which are environmentally friendly are little costlier as compared to the other products and this is what is the major concern of most of the hotels and restaurants, as it is affecting their balance between cost and revenue. Amemba (2013). Apart from this consumer's acceptance to the services and staff approach towards providing such services is also a major issue where it mostly depends on their awareness towards ecofriendly purchasing.

The researcher has gone through the literature based on topic dealing with eco-purchasing. Pune city is growing not only for its population but to serve the needs of the growing population, hospitality sector is also in boom. City has a combination of various hospitality sectors like Hotels, restaurants, Pubs, café's, bars, night clubs etc. to serve to the need of all type of clientele. The researcher aims to understand the role of purchasing personnel in adapting to the eco-friendly purchasing practices.

#### **OBJECTIVE OF THE STUDY**

After reviewing the various literatures and finding the gap the researcher aims to study

1. To Study the general awareness about Solid Waste and Solid Waste Management of Purchasing Personnel of Hotels and Restaurants.
2. To Study the Purchasing Practices adopted by Hotels and Restaurants of Pune City.

3. To Study Waste Reduction Methods followed by the Purchasing Department of Hotels and Restaurants of Pune city.

## **LITERATURE REVIEW**

### **DEFINING ECO- PURCHASING**

"Prevention" is the best way of reducing the waste. Even purchasing cost can be reduced if we plan out our operations effectively and reduce waste during actual operations Duursma et al (2016). This has been a key word in solid waste reduction. As many researches has proved that rather than sticking to the 3 R concept of Reduce, Reuse and Recycle, there is a need for 'Rethinking'. This will make sure the future of the material purchased by an organization. The need of that material will result in the possible cause of waste cycle.

(Sloan et al ,2008), opined that eco-procurement or eco-purchasing can contribute in lowering the negative impact on environment by minimizing waste. To meet eco-procurement standards, all products and services should analytically pass through the environmental impact right from origin of the product to its end utility. This eco-purchasing activity should not only stick to its original role of quality, price, delivery, availability, convenience etc, but should also take into consideration its disposal and after use.

Eco- procurement normally works on the principal of dissimulation of the products in advance, so that it can be recycled after use. The best example is by replacing biodegradable 'agrifibers' or 'bioplastic' products with normal disposable products made up of plastic and Styrofoam. Some of these are not only dishwasher but microwave safe.

Author also suggests some principles of eco- procurement food services like:

1. Using local produce of same quality, quantity and price, instead of importing foodstuffs and should give more value to seasonality of products.
2. Avoid purchasing foods which are known to damage human health or environment.
3. Support producers which use organic or responsible farm products.
4. Avoid using products containing chemical additives, salt and sugar.
5. Using food products produced by using resource efficient methods.

(Remoulador ,2011), discussed various strategies for green purchasing. Green purchasing is a powerful strategy for reducing environmental foot print and increase the operational sustainability of hotels. Green purchasing also known as environmentally preferable product purchasing or EPP, is defined as the purchase of products and services that have less or reduced effect on human health and environment as compared to the competitive products and services that serve the same purpose.

### **PURCHASING PRACTICES**

(Walter Jamieson, 2003), Discussed in the manual, the techniques to be used to avoid waste and that can be by Purchasing materials or services with careful consideration. This method of responsible purchasing can be a major step of source reduction along with saving facilities money and environment. Purchasing guidelines can have established to encourage the purchase of equipment, linen and table ware with durable, reusable and high quality properties.

The Purchasing Policies should focus on three main factors namely:

1. The environmental quality of products
2. The recycling and reuse qualities of products
3. Products that use minimum packaging



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Though there are advantages of implementing Green Purchasing still there are certain hurdles in implementing the same those challenges are:

1. Lack of choice of products
2. Cost of products as compared to other
3. Information of products on the labels are confusing and contradicting
4. Lack of awareness in staff regarding products, especially in purchasing department

(Garci & Dodds ,2008), synthesizes various literature and best practices to illustrate some practical and tactical reasons for going green in hotel industry. One of the reasons for opting green concept by the hotel can influence guest's choice of a facility. This can be expected from a guest whose level of environmental awareness increases and can support in recycling activities. From last 20 years there has been lot of changes taken place when it comes to expectations and demands from consumer. It is obvious from a sophisticated hotel guest that they will be concern about the environmental issues such as recycling bottles, cans and paper at home or they may have a view of making greener 'lifestyle' purchases like organic vegetables or fuel efficient cars.

(Sloan et al,2008), Management to work with suppliers in processing products which will help reduce / prevent waste. They may be requested to alter their products packaging and delivery system to reduce waste. They also support the view of purchasing in bulk, using recycled products and buying products from supplier who follows proper environmental policy which can be a major step in reducing waste generation. It is advantageous to reduce pollution and save natural resources by either creating less waste or reduce waste before it is being created. Outsourcing of some services can also help reduce hotel waste and to cut costs

(Zein et al ,2008), guide provides you with practical tools that can be implemented to overcome the problems of waste issues. This guide highlights the important factor of purchasing, which is carried out to keeping in view the needs of satisfying guest's expectation of quality service. It is the estimated that around 50% of hotel's solid wastes consists of packaging and containers of consumed products. It is extremely important to reduce this quantity by following effective purchasing policy. The purchasing of products should be considered keeping in view the product life cycle right from its manufacturing process till the end of product life cycle. The purchasing of 'green' products can help reduce the impact of waste creation. These are the products which can be recycled, reused effectively and can reduce the influx of waste to the waste stream. The use of 'green' products can be encouraged by creating awareness amongst staff, suppliers and guests. The guide suggests some aspects to be considered by following steps like conducting self-assessment; which gives the exact status of current conditions of purchasing practices.

(Mufeed Sharholi, 2008), shows regret on gap found between Municipal Solid Waste Management Policies and Implemetation process. It is dire responsibility of the producer to avoid introducing products in the market which will add to the waste creation without any systematic disposal methods.

(Remoulador, 2011), suggested various steps to carry on green purchasing program. Firstly, it is essential to create a policy statement for developing purchasing policy; so that the staffs of the hotel are informed about the purchasing preferences, to track future purchasing decisions. This will also create awareness amongst the customer about the hotel purchasing practices. Second step involves reviewing current purchasing practices and products, this includes taking inventory of current product purchased keeping in view the various aspect of reduce, recycle and reuse; so that the same can be discussed with the supplier to make the purchasing greener. After discussing with the supplier the next step can be the testing of products by demanding samples and testing them to assure that it satisfies the hotel requirement. Documenting the green purchases along with its cost and saving done due to use of product is the next important step. This will help in future purchasing and help promoting continuous EPP practices. Evaluating the program and measuring its environmental impact on regular basis is an essential step, as it will help to review results and current practices and make necessary changes for

improving program. These steps help management and staff to understand the benefits of purchasing choice and their effect on the environment and its budget.

(Chen & Chen, 2012), analyses on various aspects of green hotel, in which green purchasing is being listed as the first step towards building and managing green hotel. Purchases being the greatest power in protecting environment and human existence, the principal of 3R 3E is being proposed as key to purchase policy which includes reduce, reuse, recycle, economic, ecological and equitable. For managing hotels supply chain it is essential to find suitable suppliers which can meet hotel's policies of environmental protection. It will be a challenge for managers to make purchasing decision based on reused and recycled products as they will not be sure whether these products can satisfy customer's needs. Another challenge will be of higher prices and less of options of products available. But still these policies if developed can be best use of energy, reduce pollution and reduce cost. Another benefit could be in good health conditions of customer and staff and business reputation can be promoted.

(Kaufmann et al ,2012), assess different variable approach of consumers for green purchasing. It is found that the general purchasing behavior of the consumer is driven by assessing its benefits and costs, whereas, if consumer is knowledgeable about the environment can have positive effect on its inclination towards green purchasing. This again depends on the depth of the knowledge about environment which an individual consumer possesses. This can have a significant impact on consumer's behavior to buy green products. Apart from environmental awareness other aspects which can have significant impact on consumer's behavior to purchase green products are awareness, concern and attitude towards environment, belief about product safety, its availability, perceived consumer effectiveness and other trade practices.

(Amemba ,2013), apart from major issues of concern like green manufacturing, green packing, green distribution and marketing, the approach for green purchasing/ procurement is being highlighted to eliminate or minimize waste in the form of energy, emission, hazardous, chemical and solid waste. The importance of Green Supply Chain Management (GSCM), is getting escalated due to deterioration of environment e.g diminishing raw material resources, overflowing waste sites and increasing level of pollution. GSCM is not only environment friendly but it is also a good business value driver and high profit earner. The conceptual frame work presented in study gives importance to green procurement as best practices for GSCM in hospitality industry. Key factors for green purchasing includes providing design specification to suppliers, specifying environmental requirements for purchased items, cooperating with suppliers for environmental objectives, environmental audits for supplier's internal management and suppliers ISO 4001 certification.

Green procurement will help in increase in investment and reduced cost. Initiating green procurement practices has to be a continuous process and this needs to be incorporated in strategic planning of the firm. The priorities of the customers can influence the environmental management and environmental purchasing

(Pirani & Arafat ,2014) suggests applying green purchasing in the Hospitality sector for products like office supplies and cleaning products, so that it can lead to reduction in waste generation as these products are not packaging intensive and packaging they do can be recyclable. It is also advisable to buy products with a minimum of 20% post- consumer content.

(Fukey & Issac ,2014) suggests purchasing less packaged food to reduce package waste and thus saving resources and expanding recycling beyond paper glass and aluminum. Hotels can buy products in bulk and can influence supplier to provide supplies in less packaging and environmental friendly materials. Due to awareness amongst the managers, they are insisting on purchasing of eco- friendly products. Priority to be given in purchasing green products like recycled paper while purchasing stationary. Decomposition of plastic is difficult so, care should be taken for purchasing less plastic products.

(Ellis, 2015), It is being observed that in hospitality industry 10% of the purchased food gets wastes as pre-consumer waste before it is being served on to the table. The main challenge faced by the food purchaser is reducing this pre-consumer waste and subsequently loose chance in reducing cost. Therefore, it is essential that there has to be proper policies and system should be established to minimize or avoid waste. This can be achieved by proper forecasting of the material requirement, purchasing goods and material as per requirement, controlling stock, proper storage of the material, planning of menu and portioning to reduce waste, and processing of the food as per order.

It is very essential that we should keep communicating our policies, amendments done, create awareness about the waste reducing and minimizing policies of the organization, understand the values and priorities of the suppliers since they are one of the stakeholder in this activity of making purchasing eco-friendlier.

(Rajiv Kumar et al, 2016), suggests that by simplifying their cost effective green practices, Indian Budget hotels can save optimum operating cost. It has been observed that unorganized/small budget hotels accounts for around 75% of the total hotels in India. These are the hotels which normally face financial constraints and therefore they are not able to invest in environmentally friendly technology and products. Thus operating cost saved through the cost effective green practices can be utilized to purchase environmental friendly technology and products.

(Ranjitsinh Pawar, 2016), identifies the present trends in Green Marketing and also explores how it is going to help in facing future challenges of shifting consumer's behaviour and attitude towards more environmentally friendly lifestyle. Green Marketing helps in understanding the Holistica way of understanding the Production of product, Marketing, its consumption, disposal of the product and services so that the same can lessen the burden on environment

(Bisnoi, 2017), in their interview by Anupriya Bisnoi, the Purchase Managers discussed about the need for going eco-friendly when it comes to purchasing for hotels. They not only stressed on the need and importance of eco-friendly purchases but also insisted on:

1. Procuring eco-friendly products
2. Use of recycled materials
3. Ascertaining the need for technical knowledge of products, its manufacturing details, the disposal factors after use, employing the products which can be recycled
4. Taking decision related to purchases keeping in mind the carbon footprint reduction.
5. While purchasing green product keeping in mind not to sacrifice the cost involved, quality and performance standards.
6. Keep enhancing the knowledge about eco-friendly products available in market.
7. Understanding the cost effectiveness of eco-friendly products as they not only reduce and prevent wastage it also helps in reducing the material, waste disposal, operations and maintenance cost and protect environment.
8. Understanding the effect of adapting eco-friendly purchases as it not only enhances the organization image but also improves the employee's health.

#### **RESEARCH GAP**

After exploring through the various literature reviewed on the purchasing practices being followed by the hospitality sector it is identified by the researcher that various aspects are discussed like contribution of eco-procurement or eco-purchasing can help in lowering the negative impact on environment by waste minimization, green purchasing can help reduce waste by minimizing packaging, creating awareness amongst the staff and customers can lift hotel image as sustainable property, practical tools are also suggested for effective implementation of waste management, even



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3R concept is being discussed for being an effective methods for waste management etc. but it is being observed that there has been lack of research on actual waste management practices being followed by the Purchasing department as this is the first step towards solid waste minimization. For that giving importance to the Purchasing can be a major step.

### RESEARCH METHODOLOGY

To obtain data related to above research problem, both primary and secondary data collection methods were used. The following instruments will be used for data collection:

#### 1. Primary data

Primary data will be collected with the help of structured questionnaire for the Purchasing Personnel, Owner of Hotels and Restaurants or in some cases by filling up questionnaire from other department employees who looks after the purchasing procedure as some Hotels and Restaurants do not have full time Purchasing personnel.

- **Interview:** Few Hotel and restaurant owners or Purchasing personnel were interviewed to get the questionnaire filled and to understand more in-depth in their purchasing practices.
- **Questionnaire:** Literatures on solid waste management practices were reviewed. Based on which a questionnaire was drafted which included 16 questions based on following categories like:

1. General Profile: which consisted of information about the Name of Hotel/ Restaurant, address, contact details, Name of the Purchasing Personnel, Designation, Qualification, Categories of the organization, Methods of purchasing adopted, Number of suppliers etc.
2. Awareness Regarding Solid Waste and Solid Waste management.
3. Purchasing Practices adopted by the Hotels and Restaurants
4. Waste reduction practices adopted by the Hotels and Restaurants
5. Eco friendly Practices followed by the Hotel and Restaurants.

Around 100 questionnaires were distributed to Different Hotels and Restaurant through email, by google forms and by personally handing over the hard copy. Around 85 responses were received out of which 76 questionnaires were usable.

#### 2. Secondary data

The secondary data was collected from different newspapers articles, Magazines, journals, published papers on this particular topic, magazines and by searching relevant websites on the internet.

The above instruments were used as per their suitability for different situations. Primary data has been collected from employees working in various Hotels and Restaurants. This is the current data relevant to the topic of the research.

### RESULT AND DISCUSSION

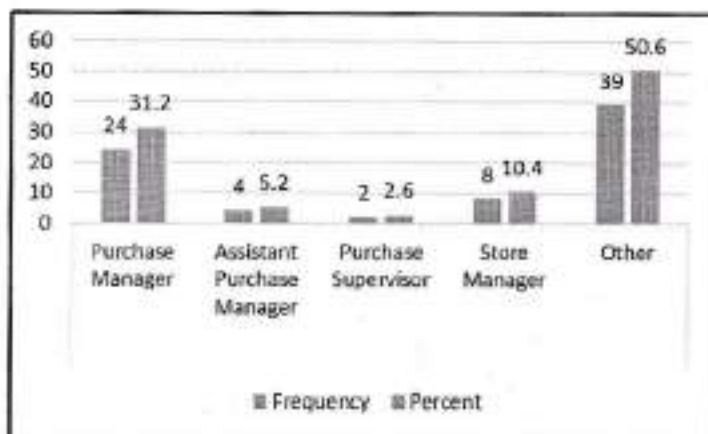
As discussed in Research Methodology, the data was collected from the Purchase Manager or in case of some Hotels and Restaurant where this particular activity of Purchasing is being looked after by other departmental Heads or Personnel.

The data is entered, tabulated and analyzed for all the respondents. First of all, the General profile of the Hotels and Restaurant is presented. The information with reference to Awareness, Purchasing practices and Waste reduction practices followed by all the hotel and restaurant are discussed and interpreted in tabular and graphical form.

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**Table 1: Designation of the Respondents      Graph 1: Designation of the Respondents**

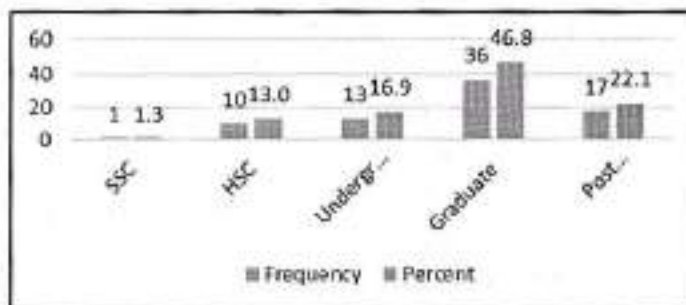
Designation	Frequency	Percent
Purchase Manager	24	31.2
Assistant Purchase Manager	4	5.2
Purchase Supervisor	2	2.6
Store Manager	8	10.4
Other	39	50.6
Total	77	100.0



Above graph and table shows the distribution of purchasing personnel as per their designation. The maximum respondent was from other category (50.6%), like Owner of the Restaurant, General Manager of the Hotel, Chefs and Food & Beverage Manager, Front Office or Executive.

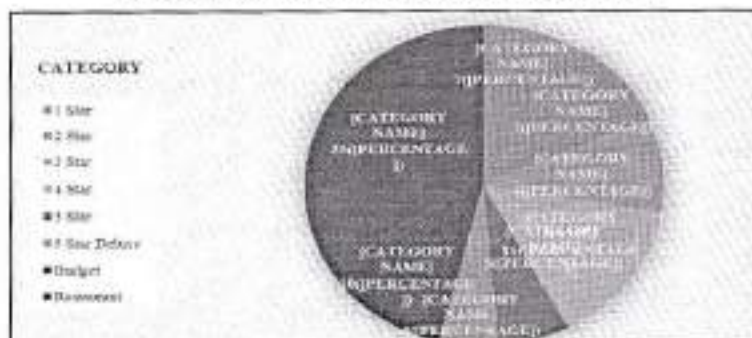
**Table 2: Qualification of the Respondent      Graph 2: Qualification of the Respondent**

Qualification	Frequency	Percent
SSC	1	1.3
HSC	10	13.0
Undergraduate	13	16.9
Graduate	36	46.8
Post Graduate	17	22.1
Total	77	100.0



Above graph and table shows the Qualification of the Purchasing personnel those who were taken as sample. The highest qualification range was graduate (46.8%) and the least was SSC (1.3%).

**Graph 3: Number Of Hotels and Restaurants**

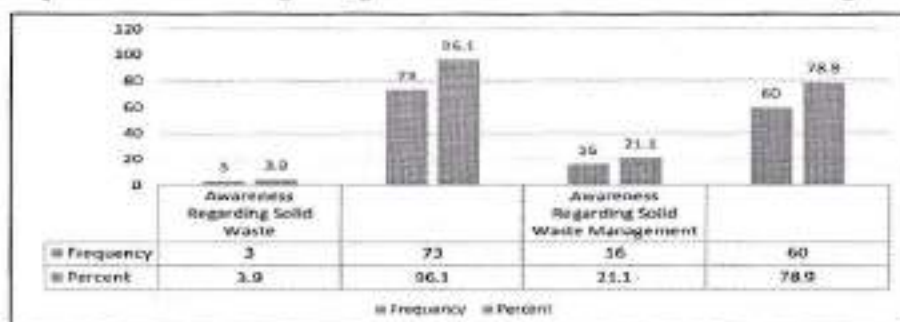




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The above Table and Graph explains the Number of various category of the Hotels and Restaurants participated in this study. As the study mostly aims at knowing the Eco purchasing practices followed by both Hotels and Restaurants, so the mix of all categories of Hotels and Restaurants were included in the study. The above table and graph shows that maximum respondents are from Restaurants which is 33% (25) and the lowest being the 5 Star deluxe Hotels which is 5 % (4).

**Graph 4: Awareness Regarding the Solid Waste and Solid Waste Management**



The above graph clearly shows the percentage of awareness amongst the respondent regarding the term, 'Solid Waste' and 'Solid Waste Management'.

1. The researcher found that maximum respondent i.e. 96.6% are aware about the term 'Solid Waste' but when the question about Solid Waste Management was asked it was found that around 78.9% were aware about the same.
2. Though they are aware about the term Solid Waste but quite a few of them were not able to exactly differentiate between dry and wet garbage. They were also unable to understand what exactly is the term Solid Waste Management.
3. They do understand the importance of managing waste, but in many cases it was found there has been no formal training given to them when it come to the matter of managing waste.

**Table 3: Methods Of Purchasing Adopted By Hotels and Restaurants**

Methods Of Purchasing	Responses	Frequency	Percent	Methods Of Purchasing	Responses	Frequency	Percent
Contract Purchasing	No	22	28.9	Purchasing by Daily Quotation	No	57	75.0
	Yes	54	71.1		Yes	19	25.0
	Total	76	100.0		Total	76	100.0
Cash Purchasing	No	47	61.8	Group Purchasing	No	68	89.5
	Yes	29	38.2		Yes	8	10.5
	Total	76	100.0		Total	76	100.0
Periodic Purchasing	No	52	68.4	Any Other	No	74	97.4
	Yes	24	31.6		Yes	2	2.6
	Total	76	100.0		Total	76	100.0

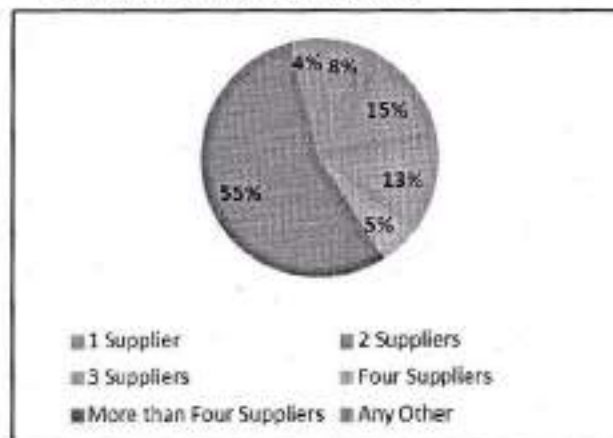
Table number 3 shows the consolidated information about the Purchasing methods adopted by the Hotels and restaurants. Following points are being observed by the researchers:

1. From the above data it can be inferred that is mixed option preferred by the respondent when it comes to the purchasing of various types of material. The methods chosen by the respondent mostly depends on what kind of material has to be purchased.
2. Maximum respondent prefers the option of contract purchasing which is 71%. The reason which researcher found in common is that it is easy for an outlet to get continuous supply of raw material once they enter into the contract with the supplier for supplies of material as knowing the fact that this industry being a service industry and customer mostly prefers to visit the property only for their need of food and services.
3. Also there are respondent who prefer to opt for other services like Online purchasing which is being opted by 2.6%, this method is opted by the restaurants. The reason being the latest trends of purchasing through online system gives flexibility to the buyers to choose from the range of products at a very competitive rates also since the payment is direct and the services also includes free delivery cuts cost for transportation of the goods to the premises. Also this method can be opted in case of emergency requirement without any botheration of availability.
4. Other Purchasing methods like Cash Purchasing, Daily Purchasing and Periodic Purchasing is less preferred option ranging to the percentage of 38.2%, 31.6% and 25% and this is mostly opted when they to purchase any perishable or when they have buy any furniture for the property.
5. There are certain Hotels and restaurants who have their chain in Pune or in other places opt for Group Purchasing option as this assures the standard quality and supply of material to all the outlets.
6. Overall it can be summed that whatever method they opt, they can coordinate with the supplier in waste reduction by mutually drafting the policy.

**Table 4: Number of Suppliers**

Number of Suppliers	Frequency	Percent
1 Supplier	6	7.9
2 Suppliers	11	14.5
3 Suppliers	10	13.2
Four Suppliers	4	5.3
More than Four Suppliers	42	55.3
Any Other	3	3.9
Total	76	100.0

**Graph 5: Number of Suppliers**



Number of suppliers decided by each hotel and Restaurant depends upon the methods of purchasing adopted by them for various types of material. It has been observed that maximum respondents choose more than four suppliers (55.3%) the reason being that they prefer to give contract for different type of supplies like perishable, groceries, meat and meat products, dairy and dairy products only to the specific supplier who normally deal with a kind of product in wholesale, as it give them option to choose from variety and in quantity at reasonable price.



It is essential for a food and beverage sector to follow certain purchasing practices to reduce waste. Based on the literature review certain Purchasing practices were identified and those practices were included in the questionnaire to find out that how many of the purchasing personnel from Hotel and Restaurant of Pune city were really following those practices to reduce waste.

The data collected from the respondent showed that the purchasing policy which is a standard operating document of the purchasing department, only 46.15 were having purchasing policy were as it was surprising to know that around 9.2 % of the purchasing personnel were actually not aware about the purchasing policy and 44.7% clearly responded that they don't have purchasing policy.

When it comes to awareness about whether the staff working in purchasing department is aware about the Purchasing policy, maximum purchasing personnel (55.3%) commented that the staff is not made aware about the policy, where as 10.5% of the purchasing personnel were not aware whether their employees are aware and 34.2% of the purchasing department staff is aware about the purchasing policy drafted by their organization and the same is being strictly adhered to.

Supplier's Audit which is an essential activity was carried out by 51.3% of the purchasing personnel. Around 6.6% of the personnel was not aware that it is important to carry regular audit for supplier.

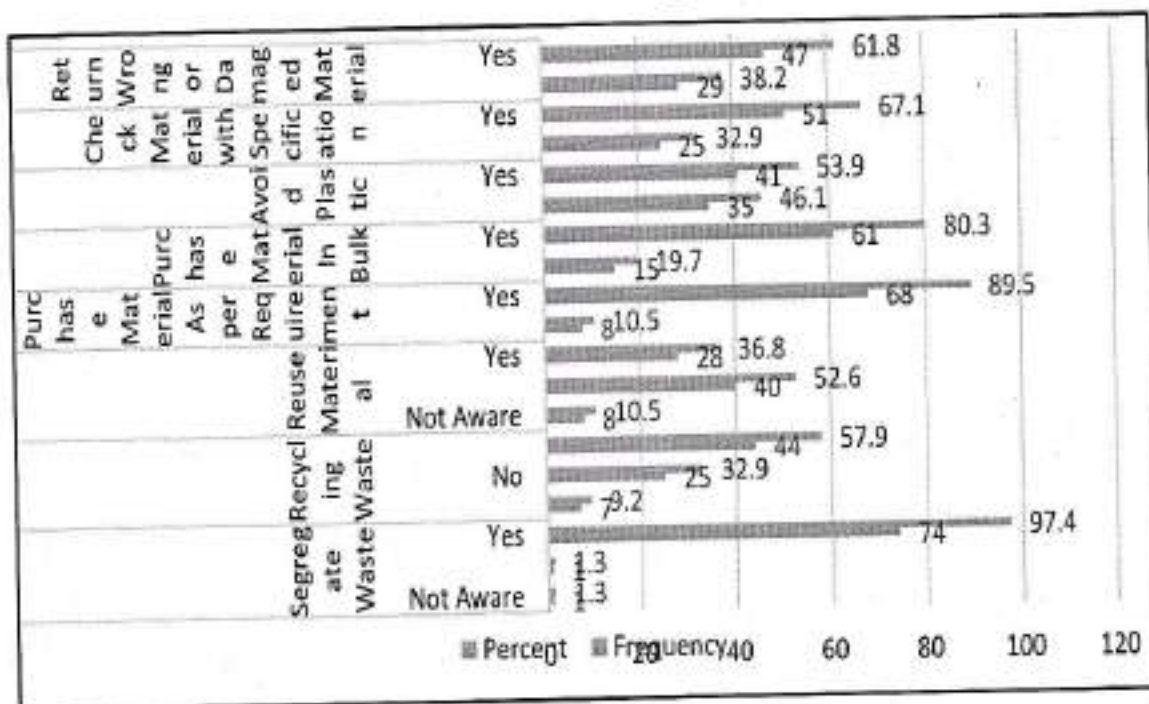
Training staff to get acquainted with the various practices of department was carried out only by 35.5%, where as in about 57.9% places the employees are not trained about the practices to follow while purchasing material to reduce waste. Around 6.6% were not aware that such kind of training needs to be carried out by an organization and whether it need to be practiced.

Researcher found out that though few of the organizations claims to be having the purchasing policy but only 32.9% of the respondent have made their supplier aware about their purchasing policy.

Purchasing of the ecofriendly products by purchasing personnel is not being done by about 60.5%, the reason given for the same was that the cost of the product is more as compared to the normal product and they have a challenge of maintaining balance between the quantum of supplies and their cost.

**Graph 7: Solid Waste Reduction Practices Adopted By the Hotels and Restaurant Purchasing Department**





Certain Solid Waste Reduction methods which can be easily practiced in day to day work were listed and the question was asked to the purchasing personnel to ascertain whether those practices are adopted by the Hotel and restaurant to reduce waste.

Certain practices like Segregating waste, Recycling waste and reusing practices are followed by 97.4%, 57.9% and 36.8% respondents respectively. The main reason being the enforcement of law 'Health and Sanitation by Law 2014'. Which clearly instruct the waste generator to follow waste reduction methods by implementing practices like waste segregation, recycling and reusing.

There are few respondents who are not aware about the practices like Segregating waste 1.3%, Recycling waste 9.2% and reusing waste 10.5 %. This is due to the reason as there are certain Hotels and Restaurants which doesn't have separate purchasing department or personnel specifically appointed to carry on the purchasing procedure. Either this job is being looked after by the other department personnel or the supplies are being transferred from main branch to other outlets.

Maximum respondents follow practices like purchasing material as per requirement (89.5%), Purchasing material in bulk (80.3%), Avoid purchasing plastic (53.9%), check material with specification while receiving (67.1%) and returning material to the supplier back if it is found wrong or damaged (61.8%). The main reason for the same is due to the cost involved in the above activity leading to reduction in profit.

**\*Responses received for the question: List few Eco -Purchasing Practices followed by your department to reduce amount of Solid Waste. The responses received are as below:**

1. Staff are trained to handle the Solid waste in appropriate manner through a PowerPoint shown where some techniques are projected to reduce solid waste.
2. Process solid waste in house and use in their own premises and ensure all waste get converted into reusable, or they recycled and reduced.
3. No Plastic Bottles are purchased. The suppliers are instructed to collect any plastic material transported by them during the supply of material.

## **Abhinav National Monthly Refereed Journal of Research In Commerce & Management**

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4. Reduction of Paper usage in Kitchen and other department as no paper is purchased unless it is essentially required for a specific job. Strict controlled is kept on purchasing of Paper.
5. We buy wine bottles in wrapped packaging instead of card board boxes.
6. Segregation of all solid waste at pickup point.
7. 20 litres water Jars are use and buy to avoid solid waste of plastic bottles.
8. Educate all perishable material vendors to use reusable crates and containers instead of card board boxes and packing.
9. Separate Garbage Areas
10. Separate colour coded garbage bags and bins
11. Reusing all possible items, Recycle, try to reduce waste
12. Take Monthly inventory to maintain low stock.
13. Documentation maintained by department to record wastage.
14. Disciplinary rules for wastage.
15. Purchase cycles are being changed to weekly to avoid big storage.
16. Strongly insist on First in and First out for every product purchased.
17. Wet garbage composting machine.
18. Do not use printed menu cards, use black board for menu display.
19. Separate bins for plastic products.
20. Avoid Plastic.
21. Purchasing of Vegetable & fruits free of Chemical
22. The waste material or vegetable is given for cattle feed without throwing it.
23. Disposing garbage at appropriate place.

### **RECOMMENDATION AND SUGGESTIONS**

After analyzing the data collected from various Hotels and Restaurant the researcher would like to give some recommendation, so that the same can be followed to make the purchasing eco-friendlier and to achieve the goal of waste reduction.

1. First and foremost, the organization should frame Purchasing policy as per the operations of the organization. That should include the norms for eco-friendly purchasing adaptable for the organization.
2. It is important for the organization to give a formal training to all their employees in understanding the importance of reducing waste. They should be made aware about the eco-friendly practices followed while purchasing material.
3. Whatever method of purchasing is to be decided it is important the suppliers are made aware about the purchasing policy and eco- friendly approach of the organization.
4. Regular audit of the supplier should be made compulsory, as this is going to affect the purchasing activity drastically.
5. Practices like Reduce, Reuse, Recycle should be inculcated in every individual working in purchasing department.

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6. The organization where separated purchasing department is not in hierarchy, should make sure that the person handling purchasing should be aware about purchasing policy.

### **CONCLUSIONS**

Eco- Purchasing is one of the major and first step in reducing waste. It has been noticed that with the hue and cry on the generation of waste by the hospitality industry, many of the sectors has started adopting green or sustainable approach when it comes to the solid waste management. Many of the researches has consistently highlighted that it is always better to reduce waste rather than creating and then planning strategies to deal with the disposal. Being first in the process of waste creation, it is important for the hospitality industry in general to start working towards reducing waste. This could be achieved through preparing purchasing policy which includes all the possible practices which can be contributed in reducing waste. The above study shows that though some of the Hotels and restaurants are following some practices of Eco-Purchasing, but their percentage is very low. Still that awareness in following Eco-Purchasing practices has block in their mind that these practices are very costly and may result in reducing their profits. But a systematic approach to the purchasing can make this activity more sustainable and cost effective. There are chances that they will be more benefitted if the policy is systematically planned keeping in view all the aspects of an organization.

### **LIMITATIONS**

While conducting this study there were certain limitations faced those are:

1. This study was limited to Pune City.
2. Only two sectors of Hospitality namely: Hotels and Restaurants were taken into consideration.
3. Number of respondent were limited due to time and financial constraints.
4. The places where separate purchasing department was not there it was difficult to collect data as the person handling the purchasing was not available, so the researcher has to depend on other department personnel to collect data.
5. Some of the personnel was not very keen on sharing data due to privacy issue.

### **SCOPE FOR FUTURE RESEARCH**

Following topics could be considered for future research:

1. The study could be done by taking every individual sector of hospitality industry like Fast food, Bars, Pubs, Night clubs etc.
2. Comparison of purchasing practices can be done between two identical sectors.
3. Case studies based on Good Purchasing practices followed by any hospitality sector can be considered, so that the same can be an example for other sector of same entity.

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