

An investigation of managerial methods for minimizing wastage of food in the Indian hospitality sector

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Abstract

Recently, food waste has increased significantly. According to figures provided by the FAO (Food and Agriculture Organization), 1.3 billion tons of food are exhausted annually on a global scale. We developed a technique to manage the food in practical ways in hopes of reducing food wastage. So, with the aid of an Android application, we can decrease food waste. Anyone who has a significant volume of food waste can publish a message or make a request. Also, the nearby food donors will receive your registered phone number along with details on the food that is now accessible to the community. The incredible economic expansion of India's hospitality industry has also contributed to a rise in the number of hotels throughout the nation. With the help of a field questionnaire survey, the current study aimed to inform researchers and restaurant owners about foodstuff proper waste administration in the Indian hospitality industry. It did this by compiling available data and gathering reports from professional restaurant servers.

Keywords: Food waste; management; hospitality sector; India

I. Introduction

Since hotels consume a significant amount of the planet's resources, including food and electricity, it is essential that sustainable practices be adopted. The ability to manage the huge quantity of misuse produced is the main worry. The hospitality and dining sector is the major player in the tourism sector's expansion in India. A resort's kitchens are where a substantial portion of its money is produced, which also means that a lot of foodstuff is shattered in the kitchens. It is not just a financial but also an environmental problem that this garbage is produced and managed.

Because the devastate generated here is naturally biodegradable and necessitates huge landfills to be disposed of, numerous resources are once again used to do the same, which essentially raises the cost of administrating it and has a negative impact on the environment

by creating methane gas, which will cause the greenhouse effect, in addition to the obliteration of plants and fauna in the surrounding due to the pollutant published by this waste.

A lot of foodstuffs are squandered when increasing the production of food for demonstration and taste, and a similar amount happens when a customer leaves the plate because of an excessive portion or for any other reason. As a result, the business is compelled to provide elevated and quantity food portions in order to survive the contest, which actually resulted in food waste. There are costs associated with disposal, transporting garbage, and labor because food waste is produced at a number of different stages. The hotel sector needs to investigate effective strategies that might save costs and aid in trash control.

It clearly demonstrates the enormous demand for hotels in the near future. The amount of garbage generated by hotels also rises as a result of these requirements. Hotels are the largest customers of facilities and produce garbage from them. One of the biggest issues facing the hotel business and society at large is food-related wastage. The stakeholders are becoming increasingly concerned about food waste as a result of the lack of suitable rules and training.

II. **Review of Literature:**

The largest producer of trash is hotels. So, developing a strategy for handling food waste is crucial. The problem of foodstuff wastage is therefore getting complicated. Working on the area of concern is, therefore, necessary at this time. The talks that have been had in this area are listed below.

Restaurants and lodging establishments are destined to produce significant volumes of food waste given the nature of their employment. The appropriate authorities, such as the administration and the government, are undoubtedly very concerned about this. Regulations must be implemented in some way to guarantee that restaurants and hotels prosper in a welcoming environment. At many stages of the hotel and eating establishment operations, food waste can occur. Food waste can result from tasks involving the preparation and storage of food resources for a variety of reasons, including unexplained requests, overproduction, inefficient manufacturing, poor communication, employee conduct, incompetent trimming, excessive merchandising, and expirations.

After the meal has been eaten, waste may also occur as a result of ordering huge portions, using ineffective service techniques, and menu approval by customers. Based on the types of food ingredients utilized, several waste types are produced at hotels and restaurants. A few examples are eggshells, potato and fruit peelings, bones, meal leftovers, and packaging debris.

Upper executives at hotels must dedicate themselves to handling waste; they must take time out of work to implement the recycling program. A study by Jehangir Bharucha (2018) focused on one of the most significant concerns relating to the hotel sector (Pirani & Arafat, 2014). The current massive amount of garbage is the fault of restaurants. It examines the truth, the problem in its entirety, and how kitchens approach it and comes up with new solutions to reduce the amount of pollution caused by food wastage (Lai & Yik, 2008).

In their 2011 paper, Lebersorger and Schneider (2011) suggested a little more in-depth explanation of subcategories. Saraswathy Kasavan (2017) examined how hoteliers handle sustainable meal waste in her article on Renewable administrations in the hospitality sector, from the procurement of sources of food to the dumping of meal trash (Lai, 2016).

On the island of Langkawi, which is a UNESCO World Geopark, 42 restaurant owners took part in the poll. The main conclusions showed that there was a varied impact on hotel efforts related to food waste and unhygienic food consumption by tourists. This demonstrates how the hospitality sector has neglected to implement sustainable methods for managing food scrap.

An important component of the ecological management of enterprises in the hospitality sector is solid waste management. In this study, we analyzed the relevant literature and looked at the state of waste management in the hotel industry generally and food waste disposal specifically. We focused on the hospitality industry's for-profit portion, which is mostly made up of hotels and restaurants. The causes for the different waste categories which are seen in this sector are described, along with probable reduction tactics (van Dillen et al., 2006).

Restaurant operations that involve the processing and consumption of food inevitably result in alarmingly high levels of food waste. Despite the fact that food wastes decrease restaurant profitability, there are a number of additional issues to be concerned about. These difficulties include the creation of greenhouse gases and the disagreeable odor in the restaurant setting.

The initiatives and practices that are already being used globally to support sustainable waste management are also discussed in addition to these techniques. Also, we provided a fundamental waste management approach that businesses in the hospitality industry should adhere to and explained how trash mapping, an inventive yet straightforward strategy, can drastically lower a hotel's waste creation. In general, we discovered that there aren't many scholarly papers in this field of study (Cheng et al., 2014).

There needs to be more research done on the potential and problems associated with implementing environmentally friendly waste management for the hotel business globally (Papargyropoulou et al., 2016).

By the end of 2010, it is predicted that 54% of meals at takeout restaurants will be closed. This shows unambiguously that actions of this nature may result in increased foodstuff waste. Hence, the suppliers/producers should focus on improving efficient portion management process so that waste can be minimized (Mekjinda & Ritchie, 2015).

III. Advantages of Reducing Waste in the Hotel Industry

Saving money through lowering energy use, trash disposal expenses, material prices, and environmental contamination is the first and most significant advantage of waste reduction. The preservation of natural resources is the second significant benefit. Lodging waste can be controlled through the three practices of reuse, reduction, and recycling.

Recycling is a major component in preventing the burning and disposal of usable materials, which saves energy and other natural resources.

IV. Phases of Recycling

- Collecting of solid waste, treatment, and production of goods that can be reused are the three main phases in recycling.
- Buying things that are constructed of recycled materials and have a second life.
- Hotel recycling systems concentrate on collecting recyclable items from the waste streams of various hotel regions.

V. Managing non-hazardous waste

Check out which kind of trash can be gathered from local waste and recycling providers before enrolling in an end up wasting programme. Many nations have fairly advanced

recycling and garbage management programmes where waste may be divided into different categories. Place objects that can be recycled wherever it is practical to do so. The numerous recycling efforts can occasionally be hindered by regional factors. For instance, many nations lack the necessary infrastructure to handle recyclables streams like bottles.

Strive to cut back on or get rid of the garbage. It is preferable to reduce waste at the point of origin, such as by avoiding the use of plastic straws, using lidded containers, reusing soap bottles, using reusable glass jars for cleaners and foods, switching to cloth bags and cloth or baskets for laundry, using shoe polish instead of plastic shopping bags, etc. Make an effort to compost any organic or biodegradable trash produced in the hotel restaurant(Nicholas et al., 2003).

Significant waste is produced by the hospitality sector, with food waste accounting for over a third of this trash. This article seeks to provide a greater comprehension of food waste prevention trends in the hotel sector as well as to identify hotel kitchen and resort food services limitations and potential to reduce food loss through a contrast between an Italian and a Romanian hotel.

Compositing

The most common natural breakdown processes for organic compounds is composting. Microorganisms that are readily accessible can create compost from garden waste, vegetable and fruit waste, and other organic components (Mona et al., 2016).

The amount of solid trash produced by this straightforward technique, which only necessitates a small amount of work, can be greatly reduced, and it also removes the requirement for the purchase of mulch or fertilizer.

Separating garbage based on compostable components (such yard waste, fruit peels, and vegetable cuttings) is a crucial first stage in the composting process. The non-compostable trash produced by hotels, such as plastics, metals, meat and fatty food waste, etc. (Sharma et al., 2013).

Concerned individuals can also segregate the wastes at the start. There are numerous composting techniques available, ranging from "no-tech" techniques to windrow techniques for expediting the decomposition. The other engineered techniques are quicker, need less

room, and can be more affordable by reducing odor hazards, whereas the simpler procedure is economical but slower in nature. For the purpose of preserving the soil's fertility, this compost can be used in the hotel gardens. Vermin-composting, or composting with worms, is an effective way to reduce the amount of solid waste that hotels produce (Saud, 2013).

VI. Research Approaches

250 staff from various hotels in Tricity Chandigarh, Mohali, and Panchkula were selected for the exploratory study. This study's main objective is to investigate various approaches to managing food waste in the hospitality sector.

The control of food waste in the hotel sector is influenced by several elements. All the factors were established after a thorough examination of the literature.

Table 2 shows that out of 250 respondents, 35% were between the ages of 30 and 40, following by 23% between the ages of 20 and 30, 22% between the ages of 40 and 50, and 21% just above age of 20.

Table 1: Techniques for reducing food waste

Tracking of Daily Food Wastage	Demand Forecasting
Purchasing and storage of ingredients	Control
Recycling of food and charity	Compositing
Bin for waste food	Food inventory
Designing of Menu	Training of employees
Engagement of Customer	Extra food for staff

Table 2 displays the participants' demographic characteristics (hotel employees). A total of 250 participants were contacted, with 24% of the workforce falling between the ages of 31 and 40 & 21-30 years of age. When it comes to their education, the bulk of workers (72%) had completed 10+2; 28% were degrees (with hotel management degree). According to gender, there have been 24% female employees and 76% men workers.

Table2: Demographic Profile of respondents

	No	%
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Age	Less than 20	60	24
	21-30	50	20
	31-40	60	24
	41-50	80	32
Education	12th	180	72
	Graduation	70	28
Sex	Male	190	76
	Female	60	24

In order to determine the best methods for managing food waste in the Indian hotel business, 10 variables were selected based on secondary data. Respondents were answered questions using a five-point Likert scale through a standardized questionnaire. These variables are condensed using the element analysis to a small amount of variables. The rotated factor matrix is used to complete the study. Ten variables are thus reduced to 2 components, which are:

Table 3 shows that factor 1 has 5 variables uploaded, factor 2 has 3 variables loaded, and factor 3 has 6 variables packed.

Variable	1	2	3
Tracking of waste food	0.85		
Purchasing and storage of ingredients	0.833		
Recycling of food and charity	0.81		
Bin for waste food	0.65		
Designing of Menu	0.635		
Engagement of Customer		0.854	
Control		0.85	
Compositing		0.845	
Food inventory			0.75
Training of employees			0.734
Extra food for staff			0.65

VII. Conclusion

Similar to how other environmental issues are becoming more prominent, food waste is a significant issue that the general public is becoming increasingly worried about.

In India, food waste is a problem that people have created, and deaths from starvation are a serious issue.

This study intends to show that efficient waste handling not only aids companies in their efforts to create an environment that is more environmentally friendly, but also enables them to profit from it. The current study supports both researchers in the field as well as hotels in their implementation of successful trash management(Mo et al., 2014).

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