
SUSTAINABLE WASTE MANAGEMENT PRACTICES FOLLOWED BY HOSPITALITY SECTOR

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Abstract

The quantity of food processing facilities as well as their overall capacity for output is continuously expanding at a breakneck pace. As a direct consequence, these units are producing massive volumes of waste, both solid and liquid, as a result of the large amounts of water and solid raw materials that they need to operate. In addition to wreaking havoc on the natural world and making life more difficult for the general population, the disposal of these wastes contributes to the pollution of water bodies in both direct and indirect ways. When food of any kind is handled, processed, packaged, or stored, waste is inevitably produced. This is because trash is produced at every stage of the food supply chain: production, processing, packaging, and storage. The goal of this section is to paint a picture of the production flow at the selected hospitality sector plants and the waste products they generate. With the assistance of secondary and primary data, a comprehensive description of the manufacturing process as well as the creation of trash has been provided. Primary data are used to explain waste generation from the selected units, while secondary data are utilised to analyse the manufacturing process of the food processing sector in the selected districts. In particular, the food processing industry's manufacturing process in the designated areas is examined.

Keywords: Hospitality, Waste, food etc.

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1. INTRODUCTION

It is observed that the hospitality industry has always and continuously paid due attention to the eco-friendly concept. There are few hotel groups that have used green practice as a marketing or promotional tool to enhance the business but there are other hotels that have genuinely and on a voluntary level have taken care of the environment. The researcher also states that many of the hotels go green because of saving on account of resources and thus expenses and also because of many eco-sensitive guest demand for these kinds of services. However, to know the exact number of hotels that on a voluntary level, choose these practices, should be checked.

It is also observed and stated that there is a big impact of the hotel industry on the surrounding eco-system as it consumes a huge amount of water, electricity, chemicals and generates lot of waste. during the 1990's the concept of green hotels came and a lot of hotels started adopting and implementing eco-friendly green practices like water conservation, waste management, energy management and others. Along with this, these hotels also started educating their guest on environmental conservation.

2. REVIEW OF LITERATURE

Paciarotti, Claudia & Mazzuto, Giovanni & Torregiani (2022) From a logistical standpoint, this study assesses the viability and advantages of a local food delivery system that links farmers and restaurant owners. A simulation model was created and run in Matlab 2019 to evaluate distribution options and determine management consequences. The model assesses several scenarios of commercial relationships between farmers and restaurateurs. Results of computer studies show that such a system has enormous promise, especially for reducing trip times. The local system has to be developed according to a certain structure and given special consideration when designing the logistical components in order to achieve these positive externalities. By examining particular instances where the primary players engaged vary in terms of kind, quantity, and location, the proposed simulation model may be utilized to enhance knowledge of related short food supply chains. The evaluations concentrate on logistical issues, a subject that is often disregarded in research on sustainable consumption. Furthermore, the research proposes an adaptable model that may be used in numerous contexts rather than concentrating on a specific case study.

Sadraei, Raziieh & Biancone, Paolo Pietro & Lanzalonga (2022) The supply chain process and all phases of consumption are particularly problematic for food waste. The current problem with the world's food supply has necessitated the development of innovative techniques for reducing food waste or turning it into more valuable products. In fact, knowing how to recover and reduce food waste offers insights into investigating how recovering waste food affects the ecosystem. The purpose of this paper is to assess existing research on the topic of food waste in industrial settings. We utilise bibliometric and thematic analysis to look into 163 scholarly works released between 2000 and 2021. In the current study, the theoretical framework of the circular economy is used to conduct a topic analysis and a cluster analysis of the relevant literature. The implications of the study are substantial for both academics and professionals. They bring more attention to the significance of waste in all systems, from agricultural production to distribution and consumption, by emphasising the closer relationship between people and food waste. Finally, it highlights the continued importance of bringing awareness to the pollution that comes from food production.

Murtza, Muhammad & Khizar (2022) This qualitative study focused on the phenomenon of career longevity in Pakistan's hospitality industry and explored the factors that led people to stay in this field for a longer period of time despite the widespread belief that hospitality careers are unfulfilling and short-lived. To conduct the research, the study used an interpretative social constructivism methodology. The purposive sampling method is used to get professional opinions on the dynamics of the hotel industry. To find the common themes, decipher the significance of the respondents' conversational patterns, and summarize their points of view and ideologies, a thematic analysis was used. Long careers in the hospitality industry are a result of devotion, professionalism, diversity, complexity, and positive working relationships with colleagues, managers, and customers. According to the survey, factors that contribute to an employee's job retention in the hotel industry include their sense of belonging and sociability. Second, the research employs a qualitative methodology to provide a variety of perspectives on employee loyalty to the industry as opposed to employee loyalty to the firm. Thirdly, the research offers useful suggestions for people managers in the hotel industry, suggesting that they should actively encourage employees' socializing in order to retain talent even when they have the option of switching to another industry. Finally, the study provides information on the study's shortcomings and its future research goals.

Roy, Abhishek (2021) With the exception of the present COVID-19 situation, the hospitality industry has consistently been seen as the most flourishing sector. The demand for hotels has significantly expanded over the last several decades along with the growth of tourism. Business potential, economic expansion, employability, and skilled labor are trends in this sector. Yes, the hospitality sector has been the most severely impacted by this pandemic. Following the lockdown, when everyone is attempting to return to normal with a variety of protocols, it is evident that the sector initially finds it difficult to rephrase, but with time and success, the sector is gradually adapting. Even though the hotel sector has increasingly embraced technology, manpower remains the key to this sector's success. Product, service, competition, customer service, operational and managerial abilities, etc. are all constants in this business. For the industry leader, constructive thinking, the transfer of information and skills, and the acquisition of the best to pick up from the institutional level are constant challenges. It is true that there have been many hospitality institutions established during the last 20 years, and graduates from these schools are entering the workforce. The need for manpower in the globally diverse hospitality sector is still the same or even higher. In this context, this article will discuss the issues facing India's system of hospitality education, as well as how those obstacles may be overcome via a number of measures that will pave the way for a smoother future.

George, Abin (2021) A large sector of the service economy known as hospitality is sometimes referred to be a nation's window to the outside world. The manner in which a guest is welcomed and greeted has an impact on the hospitality industry. The hospitality industry makes sure that visitors have access to food, lodging, comfortable transportation, and an amazing overall experience. A visitor travels from one of his residences to another for a variety of reasons, including business, pleasure, and personal travel. Three research and development organizations in India received structured questionnaires from the researcher, who then used KMO and Bartlett's test for resources to analyze and interpret the data. The conclusion and recommendation will be very helpful for the hotel business in both the public and private sectors. Both the private and public sectors of the economy stand to benefit greatly from this sector. The custom in India dictates that the visitor be regarded on a par with God.

3. RESEARCH METHODOLOGY

3.1 Primary Data

In order to complete this study, researchers gathered both primary and secondary sources of information. The research has placed a greater emphasis on primary data because most of the goals are concerned with such data. The main data were gathered with the assistance of a timetable for conducting interviews that had been tried and evaluated beforehand. These data were gathered over the course of ten years, beginning in 2010-2011 and continuing through 2019-2020, from a selection of hospitality sector plants.

3.2 Secondary Data

Ministry of Food Processing Industries records, Ministry of Environment and Forests reports, Ministry of Statistics and Programme Implementation records, Ministry of Hospitality sector, Agro-and Rural Industries records, Central Pollution Control Board records, and Delhi/NCR Pollution Control records were scoured for secondary data to assess the success of the hospitality sector and food processing industries.

4. DATA ANALYSIS & INTERPRETATION

4.1 Waste Management Practices Adopted by the Selected Food Processing Units

➤ Adoption of Waste Management Techniques by the Selected Units

Table 1 details the waste management practices used by a selection of hospitality sector food manufacturing facilities.

Table 1 Techniques of Waste Management Being Implemented Across a Selection of Units

S.No.	Type of Industrial Units	Adoption of Waste Management Technique		Total
		Yes	No	
1	Jio Mart	30(60)	20(40)	50(100)
2	Specialty Food Stores	15(30)	35(70)	50(100)
3	Retail Stores	22(44)	28(56)	50(100)
4	Grocery	50(100)	-	50(100)
5	Hotel	13(26)	37(74)	50(100)
6	Bakery and Confectionery	12(24)	38(76)	50(100)
7	Health & Personal Care	5(10)	45(90)	50(100)
Total		147(42)	203(58)	350(100)

According to the table, just 147 (42%) of the 350 units that were chosen for the research have implemented waste management strategies, while more than 58% of the units do not practice employing waste management techniques. The units were selected for the study because they were considered representative of the population. Ignorance about waste management methods, a lack of funds for installing waste treatment equipment, and a lack of knowledge about the effects of waste discharge on the surrounding environment are the primary causes of the lack of implementation. The technology was mostly utilized by the waste management practical units that dealt with the crushing and extraction of supermarket trash. Jio Mart units (representing 60% of the total) and retail Stores units (representing 44% of the total) are the other types of units that use the same concept. Because the most majority of hospitality sector units (58 percent) do not use any waste management strategies in their separate units, they cause a larger degree of harm to the environment.

➤ In-Plant Control Measures Adopted by the Selected Units

It is a general reality that waste from food processing units cannot be avoided; however, the amount of trash that is produced may be reduced to a more manageable level by implementing appropriate waste management procedures. One of the most significant aspects of waste management is the use of in-plant control methods. Table 2 outlines the various in-plant control techniques that were used by the various hospitality sector plants that were evaluated. The goal was to prevent any possible contamination by taking these precautions.

Table 2 In-plant Control Measures Adopted by the Selected Units

S.No.	Type of Industrial Units	In-plant Control Measures		Total
		Using one method	Using both methods	
1.	Jio Mart	11(37)	19(63)	30(100)

2.	Specialty Food Stores Processing	5(33)	10(67)	15(100)
3.	Retail Stores	7(32)	15(68)	22(100)
4.	Grocery Crushing / Extraction	15(30)	35(70)	50(100)
5.	Hotel	8(61)	5(39)	13(100)
6.	Hospital	3(25)	9(75)	12(100)
7.	Health & Personal Care	2(40)	3(60)	5(100)
Total		51(35)	96(65)	147(100)

The bulk of the 147-waste management participating units, or 65%, have implemented both of these strategies in their separate units, while the other 35% of the units are only using one of these methods. The bulk of the participating units in waste management, including hospitals, grocery stores that do crushing or extraction, retail stores, specialty food stores that prepare food, and health and personal care units, use both approaches.

➤ **Reusing/ Recycling of Waste by the Selected Units**

Wastes of both the solid and liquid kind are produced in huge quantities in food processing facilities. The profitability of the units will increase if these wastes are used effectively via the implementation of policies that encourage reuse and recycling. Table 3 provides an overview of the reusing and recycling techniques used by a selection of hospitality sector operations.

Table 3 The Industrial Units Reusing / Recycling the Waste

S.No.	Type of Industrial Units	Reusing / Recycling the Waste		Total
		Yes	No	
1	Jio Mart	25(83)	5(17)	30(100)
2	Fruit and Vegetable Processing	15(100)	-	15(100)
3	Retail Stores	22(100)	-	22(100)
4	Grocery	30(60)	20(40)	50(100)
5	Hotel	6(46)	7(54)	13(100)
6	Hospital	5(42)	7(58)	12(100)
7	Health & Personal Care	-	5(100)	5(100)
Total		103(70)	44(30)	147(100)

Source: Primary data collected from t

According to the table, seventy percent of the participating units in waste management are either recycling or reusing their garbage, while only thirty percent of them are not engaging in either of these activities. All of the units that fall under the retail Stores and Specialty Food Stores processing categories, 83% of the Jio Mart, and 60% of the grocery units reuse both the solid and liquid wastes that they produce. In rice milling units, the husk is utilized as groceries fuel for the paddy, but in grocery crushing and extraction units, waste such as groundnut husk and lint is burned to power the grocery. In some of the other units, the waste water is essentially recycled and utilized again.

5. CONCLUSION

If effective waste management methods are followed, there is a significant possibility that environmental contamination may be significantly decreased. Out of the 350 units that were chosen for the study, the research shows that just 147 units, or 42%, are engaged in waste management, while most units, or 58%, are not following it. The grocery crusher / extraction units are at the top of the list for waste management practicing units, with a hundred percent, followed by the Jio Mart units with sixty percent, and then the retail Stores units with forty-four percent. Ten percent of Specialty Food Stores processing, hotel, (beverages), hospital, and Health & Personal Care units are not performing waste management in an efficient manner.

Recycling and other forms of garbage reuse have a prominent position in the hierarchy of waste management practices because they are the most effective methods for lowering overall waste production. All of the units that fall under the retail Stores and Specialty Food Stores processing categories, 83% of the Jio Mart, and 60% of the grocery units reuse both the solid and liquid wastes that they produce. In some of the other units, the spent water is recycled and put to another use.

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