EFFECTIVE CONTROL SYSTEM AND FOOD AND BEVERAGE WASTAGE MANAGEMENT IN SELECTED HOTELS IN THE IKEJA AREA OF LAGOS, NIGERIA

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Abstract

This study evaluates the impact of effective and efficient control system of wastes in food and beverages department of selected hotel establishments in the Ikeja Area of Lagos, Nigeria. The study was based on primary data obtained in a cross-sectional survey of 92 respondents using the simple random sampling techniques across the selected hotels. The data collected were analyzed using Statistical Package for Social Sciences, Version 20. Descriptive statistics was used to analyze the data collected. The results revealed that majority of the respondents confirmed that more cost are incurred in purchasing new materials due to wastage that may have arisen in the previous items purchased for production, pointing to one of the negative impacts of food waste in the hotels. The study concludes that food wastes have greater negative impact on the hotel industry. Therefore, it was recommended that hotel industry in the study area should employ the service of professionals in the field as this will help in reducing wastes. Staff training is also necessary as it would serve as a viable bonus and reward mechanism for staff to manage waste thereby improving hotel performance

Keywords: Food and beverage management, food control system, food wastage, hotel industry, hotel performance, waste management

Introduction

Food waste by definition is a food that has fine quality and is suitable for consumption, but does not get consumed because it gets discarded either before or after it is left to perish Lipinski, Clowes, Goodwin, Hanson, Swannell, Mitchell 2017). Food waste typically takes place at the retail and consumption stages in the food value chain. The cause can be the negligence or a conscious decision to throw food away. Although both food loss and waste happen all over the world, food loss tends to be more prevalent in developing countries, while food waste tends to be more prevalent in developed countries. (Lipinski, et. al 2017) .As the drivers that generate food waste and the solutions to it are different from those of food losses, food waste is recognized as a distinct part of food loss (FAO, 2017)
In the case of food and beverage industry, a food item becomes waste when it failed to be used by a customer or an employee of a food service or restaurant operation. Food waste consists of both food and beverage for customer's consumption and kitchen waste such as eggshells, fresh food trimming waste, oils, spoiled or expired products. Food waste falls into two categories: Pre-consumer food waste and post-consumer food waste.

Pre-consumer food waste includes overproduction, spoilage, expiration, and trimming waste. (Baldwin & Shakman 2014). Post-consumer food waste often referred as plate waste is the food items left or discarded by the customers. These often include food left on the plates or unused seasoning part or leftover beverages. (Kilber Reinart , Hawkins , Motlagh, Writght 2018)

The first and most common cause of food waste is unidentified demand. Kitchen operators sometimes have problems to estimate the number of guests they are going to serve and guess what menu will be the most suitable and cost-effective. If the restaurant offers a wide range of menu and changes them very often, this can be a struggle. In order to improve the forecast, studying the customers' preferences and other factors such as seasonality, weather patterns, and local competition is very necessary. (Baldwin & Shakman, 2014).

Overstocking is another reason why food service points have to put food to waste (Lipinski, Hanson, & Lomax 2013). Some restaurants do not want to tell their customers that they cannot fulfill an order; as a result, they end up preparing more than they actually need. This margin of error method might work in many situations but too large margin prediction can lead to waste. (Lipinski et. al 2013).

In preventing unwanted amount of waste, food service sectors offer cook-to-order model or present their food in smaller containers and change the dis-play. (Lipinski et.,al 2013).

Additionally, poor communication among restaurant employees can lead to food waste. Communication between the front and the back of the house is very important because when miscommunication happens, due to several reasons such as the physical layout of the operation, language or cultural gaps or limited time, it can result to failure in the food production area. (Baldwin & Shakman, 2012,)

Staff behavior also plays an important role in food wastage control. Staff behaviors can either reduce or contribute to food waste. This action does not come with bad intention; however, it has led to an unexpected amount of food waste. (Darnton, 2008). Another staff-related cause of food waste is unskilled trimming. Staff members should acquire appropriate kitchen skills training and anticipate skills to produce food without creating so much waste. (Watson & Meah 2013).

Food safety comes as the first priority at any food service point, which contributes immensely to the dispose of food. Food with any issues regarding timing, temperature or handling are considered discarded for the consumers' health reasons thereby resulting to food waste in the hotel industry.(Adegbola , Bamishaiye , Olayemi, 2011).

Materials and Methods

Study Area

This study was carried out in selected hotels in Ikeja Local Government Area of Lagos State.

Study design

The study was cross sectional and descriptive in nature and involved hotel workers in selected hotels in Ikeja Local Government Area Lagos State.

Sample size and techniques

Five (5) hotels were purposely selected for this research work in hotels in Ikeja Local Government Area of Lagos State. A total number of 92 respondents were selected through a Simple random sampling technique.

Data collection

A semi structured questionnaire was administered for data collection, questions were asked on areas peculiar to the study; Section A contains the socio-economic characteristics of the respondents. Section B contains theimpact of food wastages in the hotels in the study area; Section C contains the causes of food wastages in the sampled hotels in the study area while Section D contains the control systems to tackle food waste in the study area.
Data collected on this study was subjected to descriptive statistic using statistical packaged for social scientist (SPSS) version 20.

Results and Discussion

It was revealed from the table below, the result of the study of respondents' personal characteristics that majority (40.2%) of the respondents were between the age brackets of 26-30years, indicating that middle age people are still very strong and active and could undergo any kind of training that will could improve their performances in the hotel industry.

Evaluations of respondent's gender revealed that majority (79.3%) of the respondents were females while 20.7 percent were male. This finding implied that both male and female were actively involved in hospitality industries in the study area. Marital status of the respondents may influence the performance of respondents in hotel industry. Married respondents are expected to have higher responsibilities which may or may not influence their performances. The result shows that 75.0% of the respondents were single indicating that marriage could confer some level on responsibility on respondents which subsequently affect their performance in the positive way.

It was further revealed from the results which shows that majority of the respondents possess some formal education which is essential in any hotel industry. About 92.4% of the respondents had tertiary education while 7.6% of the respondents had secondary education. Which connotes an appreciable level of literacy that exists among the respondents and this might be due to the academic requirement needed for competency, monetary transaction and diverse customers' interactions including foreigners involved in the hotel industry.

It was also revealed from the table below that 53.3% of the respondents served as kitchen staff while 41.3% were waiters. And also 63.0% of the respondents had working experience between 6-10 years.

This corroborates the findings of Pearl et.al (2008) which opined that respondents were experienced hoteliers with more than ten years' experience in the industry. This implies that respondents have a wealth of experience in the industry that could help enhance their training and subsequently improve work performance.

An evaluation of the religion of the respondents revealed that majority of the respondents (56.5%) were Christian while the rest were Muslims (43.5%). This implies that the study is likely to be less biased religious-wise.

Table 1: Distribution of Respondents by Socio-Economic Characteristics N=92

Socio-Economic characteristics	Frequency	Percentage
Age		
20-25 years	27	29.3
26-30 years	37	40.2
31-35 years	18	19.6
Above 35 years	10	10.9
Sex		
Male	19	20.7
Female	73	79.3
Marital status		
Single	69	75.0
Married	23	25.0
Level of education		
SSCE	7	7.6
NCE/ND	28	30.4
HND/B.SC	57	62.0
Position in the hotel		
Manager	2	2.2
Waiter	38	41.3
Kitchen staff	49	53.3
Chef	3	3.3
Years of working experience		
Under 5 years	4	4.3
6-10 years	58	63.0
11-15 years	20	21.7
16-20 years	10	10.9
Religion		
Christianity	52	56.5
Islam	40	43.5
Total	**92**	**100.0**

Table 2 below showed the impacts of food wastages in the hotel in the study area. The negative impacts are loss of profit/less profit (mean=4. 17), loss of customer patronage (mean =4. 14), incurring of more expenses (mean=4.09). on the positive side, food wastages according to the respondents conserves energy and resources (mean=3.93), food wastages could help family need in its localization (mean=4. 13) and food wasted rots can produce methane gas (mean=4.01)These findings indicated that respondents in the study area have the good knowledge of both positive and negative impacts of food wastages and this knowledge will serves as a guide to work towards preventing wastages of food in the study area.

Table 2: Impact of food wastages in the hotels in the study Area.

IMPACTS	SA		A		D		Mean
Negative impact	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**	
Loss of profit/less profit	16	17.4	76	82.6	-	-	**4.17**
Loss of customer patronage	13	14.1	79	85.9	1	1.1	**4.14**
More expenses are incurred	11	12.0	80	87.0	-	-	**4.09**
Image of hotel are greatly affected/influenced	5	5.4	78	84.8	9	9.8	**3.86**
Reduction in cost of labor/manpower	12	13.0	71	77.2	9	9.8	**3.93**
Positive impact							
It conserves energy and resources	12	13.0	71	77.2	9	9.8	**3.93**
It prevent environmental damage	1	1.1	82	89.1	9	9.8	**3.81**
Food wasted could help families in need	30	32.6	53	57.6	9	9.8	**4.13**
Food wasted rots and produces methane gas	19	20.7	64	69.6	9	9.8	**4.01**
Grand mean							**3.90**

Table 3 below showed the possible causes of food wastages in the hotel in the study area. The causes are improper storage of raw materials purchased especially the perishable food items (91.3%), over production of food in the kitchen by the kitchen staff for the day service and eventually not up to (84.8%), over purchasing of food items needed for cooking (94.6%) can cause food waste. On the other hand other causes are inadequate usage of portion control by the establishment especially in the food and beverage department (96.7%), inefficient forecast of food production (94.6%), low sales due to economic recession (92.4%) and low patronage thereby making the food as left overs and the establishment considering it as waste (72.8%).

Table 3: Causes of food wastages in the sampled hotels in the study area

CAUSES	YES		NO	
	Freq	**%**	**Freq**	**%**
Improper storage for raw materials	84	91.3	8	8.7
Over production of food in the kitchen	78	84.8	14	15.2
Over purchasing of food item needed	87	94.6	5	5.4
Inadequate usage of portion control	89	96.7	3	3.3
Not paying attention to customer orders	18	19.6	74	80.4
Inefficient forecast of food production	87	94.6	5	5.4
Incorrect estimation of ingredient purchase	40	43.5	52	56.5
Customer behavior	11	12.0	81	88.0
Low sales	85	92.4	7	7.6
Low patronage	67	72.8	25	27.2

Table 4 below showed the approaches to tackle food wastages in the hotel in the study area. The approaches are cooking to order (Ala carte) (mean=4.08), First in first out (FIFO)/last in first out (LIFO) for items purchased for production of food (mean =3.80), reducing the amount of food produced per day (mean=3.95). Other approaches are avoiding wasting of ingredients before they are prepared (mean=4.23), paying attention to food storage temperature (mean=4.05), use of portion control (mean=4.01) and keeping the stock organized (mean=3.96).

Table 4: Control systems to tackle food waste at the hotels in the study area

APPROACHES	SA		A		D		Mean
	Freq	%	Freq	%	Freq	%	
Cooking to order	25	27.2	58	63.0	9	9.8	**4.08**
First in first out(FIFO)/last in first out (LIFO)	-	-	83	90.2	9	9.8	**3.80**
Reduce the amount of food produced	13	14.1	70	76.1	9	9.8	**3.95**
Avoid wasting of ingredients before they are prepared	39	42.4	44	47.8	9	9.8	**4.23**
Pay attention to food storage temperature	23	25.0	60	65.2	9	9.8	**4.05**
Use of portion control	19	20.7	64	69.6	9	9.8	**4.01**
Keep the stock organized	14	15.2	69	75.0	9	9.8	**3.96**
Grand mean							**3.75**

Summary

The study examined the impact of effective and efficient control system on wastages in food and beverage department of five hotels in Ikeja Lagos Nigeria.

It was confirmed from the study that food wastage has negative effects on the hotel business or industry at large. Its effects that are mentioned are as follow: loss of profit/less profit to the hotel industry thereby leading to loss of customer patronage that is no funds to cater or to meet customer expectation and when customer is not getting enough they patronize elsewhere. These may results to the image of the hotel greatly affected/influence, and also reduction in cost of labor/manpower that is when there is low patronage the source of income to the hotel industry will be reduced. This corroborates the finding of (Baldwin & Shakman, 2012) which saysthat food waste builds up the financial burden on the business due to the waste of raw materials. It was also found out from the study that despite having negative impacts on the hotel industry, food waste also as its own positive impacts it was found out from this research that food wastage as huge environmental impacts which are the emission of biogenic greenhouse gases such as methane and nitro oxide into the air which corroborates with Baldwin & Shakman, 2012) It was found out from this research that food wastage in the hotelindustry in the study area were being caused by improper storage for raw materials, over production of food in the kitchen, over purchasing of food item needed, inadequate usage of portion control, and also not paying attention to customer orders, low sales /low patronage from the customer end which is in conformity with (Baldwin C.J, 2015) findings.

It came to limelight that if practiced efficiently there are suggested control systems through which food wastage can be prevented such as: cooking to order that is practicing ala carte method of food service, using the First in first out(FIFO)/last in first out(FIFO) method, reducing the amount of food produced that is cooking bit by bit except if need may arise for large preparation/cooking, avoiding wasting of ingredients before they are prepared, paying of attention to food storage temperature, management of portion sizes, keeping the stock organized and the utmost part of it is good storage temperature i.e there must be adequate storage facilities for raw materials which is in line with (Drewit T. 2013) findings.

Conclusion

It can be said that food wastages had a greater negative impact in the study area and measures / control systems must be taking to avoid/prevent the wastages as this can make the hotel to fold up.

Therefore hotel industry in the study area needs to work more on the causes of food wastage so that it can be rectified completely in order to increase the productivity of the industry.
Study findings reveal that food waste remains one of the most complicated issues in the food service industry/ hotel industry and if not prevented it has a negative impacts on the profitability of the hotel industry. It can be concluded from the findings of this research that food wastage affects the profitability of the hotel industry in the respective study area.

Recommendations

Based on the findings from this study, the following recommendations are proffered:

1. It is advised that a change in operation concept should be made, which is a switch from buffet to à la carte service
2. There should be daily food waste tracking, better ingredient purchase, storage, smart food merchandising.
3. There should be employee training on how to use portion control, food recycling and there should be regular food plan reviews and the most important there should be efficient fore-casts of guest's demand and a strong communication between the restaurant and the kitchen.
4. Hotel in the respective study area should employ the service of professional trainer for effective training, thus helping in cost reduction and reduce wastages.

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