EFFECTS OF EMPLOYEE ATTITUDINAL FACTORS ON HACCP SYSTEM PRACTICES IN FOUR AND FIVE STAR RATED HOTELS IN NAIROBI COUNTY, KENYA

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International Academic Journal of Social Sciences and Education (IAJSSE) | ISSN 2518-2412

Received: 19th August 2020

Published: 9th March 2021

Full Length Research

Available Online at: http://iajournals.org/articles/iajsse_v2_i2_294_305.pdf

Citation: Chege, P. W., Miricho, M. Gesage, B. (2020). Effects of Employee Attitudinal Factors on HACCP System Practices in Four and Five Star Rated Hotels in Nairobi County, Kenya. *International Academic Journal of Social Sciences and Education, 2*(2), 294-305

ABSTRACT

Right attitude is very important for every success. It is key to performance of employees in any business. Hazard Analysis and Critical Control Point (HACCP) is a globally recognized food safety program advanced as a suitable program to minimize or eliminate the risk of food contamination. This study sought to determine the influence of employee attitudinal factors on HACCP system practices in four and five star-rated hotels in Nairobi County. A total of 255 hotel cooks and 33 chefs participated in the study. Data was analysed using descriptive statistics that provided detailed description of the study variables. To establish the statistical significance of the hypothesis, simple linear regression analysis was conducted at 95 percent confidence level ($\alpha = 0.05$).The study established the existence of a statistically significant positive relationship between employee behavioral factors and HACCP system practices. The study recommends to hotel managers and other food production industry practitioners to enhance employees' attitude for effective HACCP system implementation.

Keywords: **Employee Attitudinal Factors, Food Safety, HACCP System Practices, Star- Rated Hotels**

INTRODUCTION

Motivation on food safety strategies plans in hotels clearly depend on the employees' attitude and their capability (Suling 2013). Attitude also depends on customers' demands which determine behavior towards food safety. Reda and Mostafa (2016) carried out a study in 15 five star hotels and 8 four star hotels in Egypt. 433 food handlers' were the respondents. The study was about beliefs and intended attitudes towards food safety, training and knowledge related to ISO 22000 and HACCP systems. Investigation on the impact of food safety training on improving food handlers' behaviors and knowledge found that the majority of food handlers declared positive attitudes towards safe food handling. However, failures were found in the application of personal hygiene practices in both hotel categories. It was also noted that there were significant correlations among effective food safety training and improving food safety knowledge and behaviors (Reda and Mostafa 2016). This implies that there is a link on food safety training provided in the food industry and its effect on enhancing food handlers' behaviors and knowledge. In the same vein, Nada et al (2019) examined food safety knowledge and practices of food service staff in Al Madinah hospitals, Saudi Arabia and established that there was a significant linear relationship between food safety practice and food safety knowledge, and that food safety knowledge significantly predicts food safety practices. The research revealed the importance of education and consistent training of food service staff in improving knowledge and thereby better and safe food handling practices which could contribute to apply food safety in the hospitals.

According to Taylor (2008), HACCP is an internationally recognized food safety management system whose utilization has been expanded to take control of the complete range of chemical, physical as well as biological hazards. Al kaabiet al (2015) observe that

given the enormous food safety hazards across the world, an efficient food safety system is invaluable and suggests that HACCP is a highly appropriate system for food safety management. In addition to being a tool for addressing food borne health threats, Steffen et al. (2012) state that adoption of the HACCP system presents a number of benefits to the hospitality sector such as providing safe guards against hygiene disease out breaks and arising legal suits. Further, Mariam et al (2015) observe that adopting of HACCP system increases buyer and consumer confidence. It also gives a step to step account of all parts of the process that relate to food safety According to Anon (1997) commitment to food safety of food via compliance to HACCP can enhance the brand positioning of hotels and serve as an efficient market entry strategy.

Whereas the use of appropriate HACCP practices in food establishment kitchens is important, its execution relies heavily on the behaviors, skills and knowledge of both staff and management (Al Yousuf et al 2015). Catherine et al (2014) observe that where as employees may know the behaviors considered proper to ensure food safety, habits that are not compatible with safe food practices serve as an obstacle to safe food. An improved routinization of safe food handling practices in a work culture to decrease the food borne ill health risk is therefore essential. Nada (2016) observed that the system of food safety in Serbia required improvements in the area of efficiency and effectiveness of inspection services and control of food safety, expertise and food safety consultants as well as auditor's knowledge.

A study by Habeeb et al (2018) to assess the compliance with HACCP system in standard hotels in Ilorin metropolis at Kwara State in Nigeria established that the concept of HACCP was not understood and that this could be impacting on the general food hygiene standards and food-handling practices of personnel. As a result, the researchers recommended the need to implement HACCP system to prevent food poisoning outbreaks and suggested that hotels could easily adapt the strategy only if law enforcers could put strict monitoring in place. Management must also provide required infrastructure for successful implementation of HACCP system in hospitality sector. In the same vein, Christos et al (2009) observes that factors such as attributes of a company and human are critical in executing a successful HACCP system.

Dawkins (2015) conducted a study in the United Kingdom to determine factors constraining the implementation of Hazard Analysis in small and medium sized food business in the London Borough of Camden and established that constraints existed that hindered the implementation of food safety management systems. The constraints reflected the general shortcomings amongst food business operators (FBOs) in relation to their capacity to understand HACCP based concepts and their unwillingness to implement a concept that they generally considered alien to them. Several caterings of in-flight have met the demands of their passengers, superior quality hygienic services of food, by system of hazard analysis critical control point (HACCP) implementation (Hootan et al 2015). This implies that HACCP system is effective in controlling dangers which may come from food.

State of Food Safety in Kenya's Hotel Sector

The system of food safety control in Kenya is under various regulatory frameworks. It is executed by different government ministries and agencies. There are over 20 different legislations for food in Kenya. The Kenya Bureau of Standards (KEBS) which is a certification body, provides ISO 22000:2005 (Muinde, 2012). Kenya lacks a definitive national food safety policy. Enforcement of the existing fragmented food safety legislations is also weak. As a result, Oloo (2010) observed that food borne illnesses are still a key crisis in Kenya within the food production sector.

A study by the Kenya Medical Research Institute (2014) reported that majority of the chicken vended in butcheries and retail outlets especially supermarkets within Nairobi posed a severe health risk to customers. A similar study carried out by Wandolo (2016) in training institutions in Kenya established that the institutions were not adequately equipped to ensure food safety. In particular HACCP system prerequisites were not in place in most of the institutions. The study also established that lack of resources posed serious threat to food safety and hygienic practices.

Objective of the Study

Establish the influence of employee attitudinal factors on HACCP system practices in four and five star-rated hotels in Nairobi County.

Conceptual Framework and Hypothesis

The key variables of the study are depicted in the conceptual framework in Figure 1.

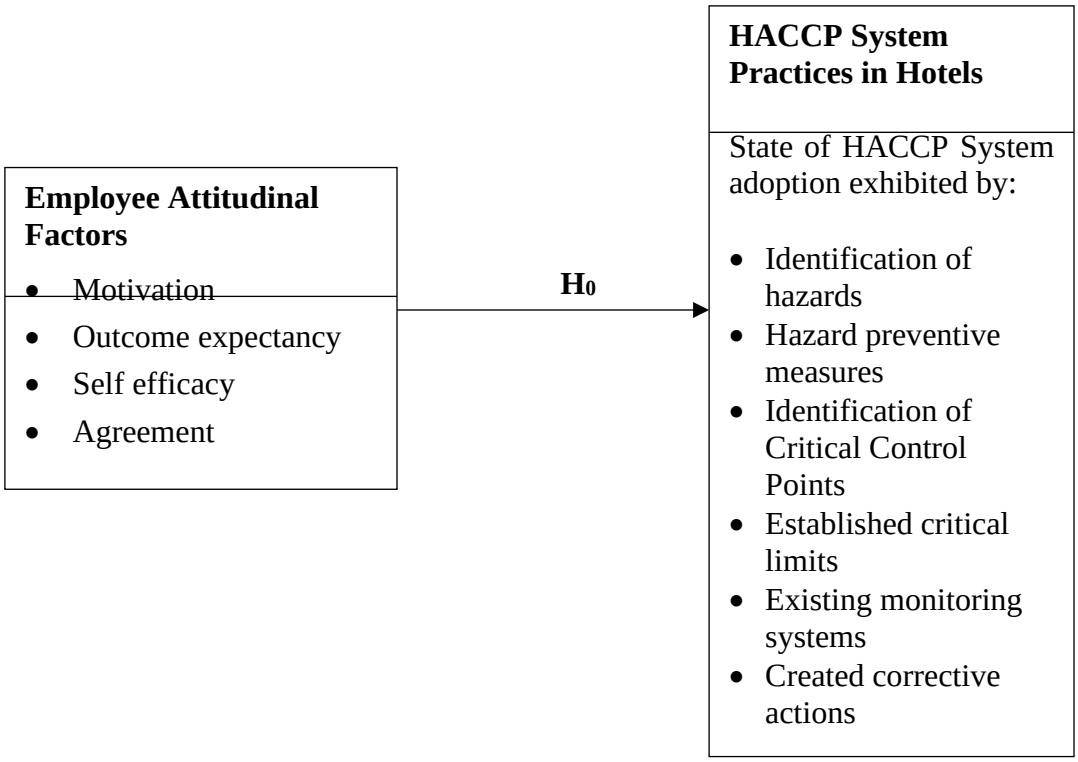

Figure 1: A Conceptual Framework of Employee Attitudinal Factors and HACCP System Practices in Hotels

Arising from the conceptual framework in Figure 1, the following null hypothesis guided the study:

H_0: There is norelationship between employee attitudinal factors and HACCP system practices in four and five star-rated hotels in Nairobi County.

METHODOLOGY

The study adopted a cross-sectional survey research design and was was conducted in the Nairobi City County since the county has a higher number of star-rated hotels in Kenya. All the hotels classified by the Tourism Regulatory Authority (TRA) as either four or five star-rated were targeted. According to the 2016 TRA classification (Appendix III) there were 22 classified hotels in Nairobi City County of which ten were 5-star and twelve 4-star. The target study units were the chefs and cooks from all the 22 hotels classified as 4 and 5-star in Nairobi County.

A purposive and stratified sampling technique was used to select the study units who constituted the respondents for the study. The study units/respondents were classified into two strata namely the chefs and cooks. A self-administered structured questionnaire was used to collect the primary data. The close-ended questions were used in the questionnaire to gather the requisite information. In addition, an interview schedule targeting one manager in each hotel was personally administered by the researcher to obtain the hotel managers' views and cross-validate the answers given on the key questions covered by the questionnaires targeting on the respondent chefs and cooks.

A sample of three chefs from each of the 22 hotels constituting the population of study was randomly selected thus totaling to 66 chefs targeted as the respondents of the study. On the other hand, given that hotels engage a sizeable number of cooks, the size of the sample constituting the hotel cooks from the entire study population of 22 hotels was computed to be 384 cooks. The average number of cooks targeted for interview from each of the 22 hotels was therefore 17 (that is: 384/22) and this number were selected randomly from each of the hotel. The total study units/respondents targeted for the study were therefore 450 (66 chefs and 384 cooks). However, data was successfully collected from a total of 16 hotels from the study population of 22 hotels with a total of 255 hotel cooks and 33 chefs from the 16 surveyed hotels successfully responding to the administered questionnaires totaling to 288 respondents, a response rate of 64%.

Measures for the study variables were adopted from well-established scales in the existing literature. Measures for HACCP practices were adopted from the principles of HACCP implementation by (Codex Guidelines 2008) and (Semos and Kontogeorgos, 2007). While employee attitudinal factors were adopted from the Behavioral Adherence Model advanced by Taylor, E. in 2008. An analysis of the reliability of the multiple measures of the respective variables revealed their Cronbach's alpha coefficients exceeded the 0.7 lower level of

acceptability. Hence, the internal consistency reliability of the measures used was considered to be sufficiently high and to have adequately measured the study's variables.

Analysis of the data utilized a set of descriptive statistics that provided detailed description of the study variables. To establish the statistical significance of the hypothesis, simple linear regression analysis was conducted at 95 percent confidence level ($\alpha = 0.05$). The following sections highlight the relevant results

RESULTS AND DISCUSSIONS

Descriptive findings of the Study

The Nature of Hotels' Employees Attitude towards HACCP System

The respondents were asked to rate the various measures of employee attitudes towards HACCP system in their hotels on a scale of 1 to 5 (where 5 = very true 1= not at all true). The percentage responses to the questions as well as computed individual and aggregate means and standard deviations are shown in Table 3.1.1

On the actual attitudes portrayed by employees towards HACCP uptake, the results in Table 3.1.1 indicate that the majority (56.3%) do not regard as true the statement that employees prefer to do what they have always done than adopt the requirement of HACCP system with 6.3% of the employees regarding this statement as somewhat true of the attitude of employees towards HACCP system. Most of the employees (43.8%) do not regard it as true that their attitude is that of employees who think HACCP system won't make any difference to their hotels' business prospects while 31.3% of the employees attitude is one driven by the thinking that think HACCP system won't make any difference to their hotels' business prospects. Most of the employees (56.3%) don't regard it at all true that their attitude is one that believes the skills requirements for HACCP system are beyond with none of the employees of the contrary opinion. In the same vein, the majority of the employees (50%) of the employees don't consider it true that their attitude is reflected by thoughts of HACCP system being a waste of their time.

Table 3.1.1 Attitude of Hotel Employees towards HACCP System

Attitude portrayed by employees towards HACCP uptake	5	4	3	2	1	Mean	SD
Employees prefer to do what they have always done than adopt the requirement of HACCP system	-	25.0%	6.3%	56.3%	12.5%	2.44	1.000

Employees think HACCP system won't make any difference to the hotel business prospects	-	-	31.3%	43.8%	25.0%	2.06	.749
Employees believe the skills requirements for HACCP system are beyond them	-	-	-	43.8%	56.3%	1.44	.497
Employees think HACCP system is a waste of their time	-	-	-	50.0%	50.0	1.50	.501
Aggregate Scores for Employee Attitudinal Factors						**1.86**	**0.687**

Notes: N = 288, 5 = Very true, 4 = True, 3 = Somewhat true, 2 = Not true, 1 = Not at all True, SD = Standard Deviation

Source: Research Data

The results in Table 3.1.1 show that the aggregate mean score for employee attitudinal factors is 1.86 which approximates 2 on the scale 1 to 5 thus indicating that the employees rated statements rating their attitude towards HACCP system as poor as generally not true within a standard deviation of 0.687. The disagreement with a statement portraying them as being averse to HACCP system was registered on the statement that employees prefer to do what they have always done than adopt the requirement of HACCP system (mean = 2.44; standard deviation = 1.000) and the least was observed on the statement that employees believe the skills requirements for HACCP system are beyond them (mean = 1.44; standard deviation = 0.497.

The findings of this study therefore are that most of the employees within the star-rated hotels in Nairobi County have a very positive attitude towards the HACCP system. This contradicts the findings of a study by Narul (2008) who established a generally negative attitude towards HACCP system by employees working in the food sector and therefore recommended the need for training and motivation to encourage food handlers to practice appropriate attitude and procedures when working in the food arena.

The Extent of HACCP System Practices in the Hotels

The results indicated a high incidence of existence of HACCP system practices in the star rated hotels with 93.8% indicating that there is a clear checklist of possible food hazards facing their hotels; 87.5% confirmed that there is a list of steps to be undertaken by the hotel for food safety hazard prevention with a similar proportion of 87.5% indicating that there is a clear checklist of food safety critical control points within the hotels. A further 81.3% of the hotel employees were of the view that there are set threshold levels to be adhered to for existing food safety while 56.3% indicated that there exists a surveillance mechanism to ensure adherence to the established food safety systems. Finally, 68.8% of the employees

confirmed that there are remedial measures in existence in the event of lapses to ensure adherence to food safety within the hotels.

The aggregate mean score for the HACCP system practices in hotels was 1.79 which approximates 2 on the scale 1 to 2 thus indicating that the employees were generally in agreement that the HACCP system practices existed in their hotels at a standard deviation of 0.376. These results contradict the findings by Taylor (2008) who observed a general lack of capacity food handlers in implementing the HACCP system practices.

The Effects of Employee Attitudinal Factors on HACCP Systems Practices

To assess the influence of the hotels employees' attitudinal factors on HCCP system practices the below null hypothesis was tested:

H0: There is no relationship between employee attitudinal factors and HACCP system practices in four and five star-rated hotels in Nairobi County.

The mean scores of the hotels' employee attitudinal factors (independent variable) were regressed against the aggregate mean scores of the hotels HACCP system practices (dependent variable) using simple linear regression. Important findings are indicated in Table 3.2.1, 3.2.2, and 3.2.3.

Table 3.2.1: Results of the Goodness-of-Fit Model of Regression of Employee Attitudinal Factors against HACCP System Practices

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.259[a]	.067	.064	.27089

a. Predictors: (Constant), Mean score of employee attitudinal factors towards HACCP Food

Source: Research Data

Table 3.2.1 show employees' attitudinal factors have a low explanatory power on HACCP system practices as it accounts for only 6.7 percent of its variability (R square= 0.067).

Table 3.2.2: Results of the Overall Significance of Regression of Employee Attitudinal Factors against HACCP System Practices

ANOVA[a]					
Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1.512	1	1.512	20.606	.000[b]
Residual	20.988	286	.073		
Total	22.500	287			

a. Dependent Variable: Mean score of HACCP System Practices

b. Predictors: (Constant), Mean score of employee attitudinal factors towards HACCP Food

Source: Research Data

The regression results in Table 3.2.2 show a statistically significant relationship in employee attitudinal factors and HACCP system practices since overall significance p-value = 0.000. The null hypothesis of equal population means is thus rejected indicating that 4 and 5-star categories of classified hotels have different mean values for employee attitudinal factors that differently affect their HACCP system practices. Alternatively, since the calculated value of F (20.606) is greater than the critical value of F0.05 (which is 3.84 from the F Distribution Table with 1 and 286 degrees of freedom), the null hypothesis is rejected.

Table 3.2.3: Results of the Individual Significance of Regression of Employee Attitudinal Factors against HACCP System Practices

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.538	.058		26.408	.000
Mean score of employee attitudinal factors towards HACCP Food	.137	.030	.259	4.539	.000
a. Dependent Variable: Mean score of HACCP System Practices					

Source: Research Data

The regression findings in Table 3.2.3 indicate a moderate positive linear relationship in employees' attitudinal factors and HACCP system practices ($\beta = 0.259$, p-value = 0.000). Therefore, H03 is rejected (p-value < 0.05) and thus there exists a relationship between employee attitudinal factors and HACCP system practices in star rated hotels in Nairobi County.

The hotels are therefore urged to enhance their employees' positive attitudes towards HACCP uptake by encouraging their preference for HACCP system practices as a food safety system and making them understand that HACCP system practices would make positive difference to their hotels' business prospects. In addition, employees need to be made to believe that the skills requirements for HACCP system are not beyond them and that engaging the system is not a waste of their time.

The study results concur with the findings of Nurul (2008) who encourages food handlers to put in place proper attitude and procedures when carrying out duties in food premises to enhance food safety standards. The study results are also in agreement with the study by Teeping (2015) who found that right attitudes about food safety positively affected food safety behavior. The findings further support the argument by Roncesvalles (2010) to the effect that attitudinal barriers as a result of inadequate educative courses made it difficult for food production workers to adhere to HACCP system requirements. The findings of the

research however contradicts those of Reda and Mostafa (2016) on 433 food handlers' beliefs and intended attitudes towards food safety training and knowledge related to ISO 22000 and HACCP systems in 15 five star hotels and eight four star hotels in Egypt with the aim of investigating the impact of food safety training on improving food handlers' behaviors and knowledge which found that the majority of food handlers declared positive attitudes towards safe food handling. However, the research established failures in application of personal hygiene practices in both hotel categories. This study findings are also in contrast with Manning (2018) who observes that food safety knowledge does not necessarily lead to behavior that enhances food safety and therefore recommends that the knowledge-experience-attitude-behavior (KEAB) dynamic of food safety culture is of great importance and deserves further empirical study in the hospitality industry

In regard to results above, the following simple regression equation that can be put in place to estimate HACCP system practices in a classified hotel in Nairobi County for a given level of employee attitudinal factors is given by:

$$HSP = 1.538 + 0.259EAF$$
$$(0.000) \quad (0.000)$$

Where

HSP = HACCP System Practices

EAF = Employees Attitudinal Factors

1.538 = y-intercept; constant

0.259 = an estimate of the expected increase in HACCP system practices corresponding to an increase in employee attitudinal factors

0.000 = p-value (a measure of how significant the sample results are; the smallest value of α for which Ho can be rejected)

CONCLUSIONS AND RECOMMENDATIONS

This study sought to determine the influence of employee attitudinal factors on HACCP system practices in four and five star-rated hotels in Nairobi County.The study established the existence of a positive relationship between employee attitudinal factors and HACCP system practices

The results of this study have significant policy and practical implications to hospitality industry regulators and managers of star rated hotels that implement HACCP system practices.It is important for the management of the hospitality industry to ensure that employees' attitude towards HACCP system is positive as this greatly enhances the level of HACCP system practices in the hotels.

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