Food Science and Quality Management
ISSN 2224-6088 (Paper) ISSN 2225-0557 (Online)
Vol 9, 2012
www.iiste.org

Extent of Adoption of Quality Management Systems in the Hospitality and Catering Industry: A Study of Selected Establishments in Nairobi.

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ABSTRACT

The aim of this research was to establish the extent of adoption of two quality management systems in selected hospitality and catering establishments in Nairobi Kenya. Survey design was used and the target population was managers in the establishments. A sample size of 120 was used. Purposive sampling was used to select the managers because adoption of the systems was assumed to be a managerial responsibility. Interview schedules and questionnaires were used to collect primary data which was analyzed using descriptive statistics. From the findings majority of the respondents had knowledge about the existence of quality management systems but had not adopted the systems because of high costs involved in its implementation and lack of information. Hazard Analysis and Critical Control Point system (HACCP) was preferred than Assured Safe Catering (ASC). The establishments using Quality management systems highlighted the benefits of the systems that included success in production of quality products and increased profitability. However the systems had limitations such as demanding routine of maintenance of standards and involving intense documentation. Evidently, quality management systems are relevant to the hospitality industry and need to be adopted by operators in the food handling sector

Keywords: Adoption, Assured Safe Catering, Catering, Hazard Analysis and Critical Control Point system, Kenya

1. Background Information

There has been a conscientious effort since the Food Safety Act 1990 to try to reduce the levels of food poisoning occurring in the hospitality sector, the introduction of HACCP (Hazard Analysis and Critical Control Points) hygiene management system into the hospitality is an example of this effort (James, 1998). The hospitality industry is responsible for 44 percent of reported outbreaks (Anon, 1997a). There are two main systematic

approaches to food safety that have increasingly been used in industries like pharmaceutical industries, cosmetic and in hotels (Foskett, et al 2003). Hazard Analysis and Critical Control Point (HACCP) is an internationally recognized system of managing food safety (Codex, 2003) and its use is advocated in the hospitality industry. HACCP identifies potential hazards and faulty practices at an early stage rather than reacting to deficiencies in end-product testing. It focuses on raw material and process control rather than structure and layout of food premises (Ehiri *et al.*, 1995). The objective of HACCP is to prevent specified hazards from occurring in specified menu items. A HACCP team consists of appointed employees familiar with food production and the requirements of food safety. A target menu item (or group of similar items) is selected by HACCP team and hazards that may occur in the menu item are determined. In food service the means of control usually include managing the time and temperature history of food materials during refrigeration, cooking and holding. A HACCP system is built by a facility-specific HACCP team and is based on seven principles. The resulting plan is a protocol for the production and service of a safe menu item.

Assured Safe Catering (ASC) is another system developed for and with caterers to control food safety problems. It is based upon some of the principles of HACCP and involves looking at the catering operation step by step from the selection of ingredients right through to the service of the food to the customer. With careful analysis of each step of the catering operation anything that may affect the safety of the food is identified thus the caterer can then determine when and how to control the hazard. ASC emphasizes the importance of safety precautions in preparation, handling and temperature control of food. It is vital that catering staff are properly trained if an ASC system is to work effectively and that record sheets are kept of controls which are in place. Assured Safe Catering is suitable for small, medium or large catering operations and can be applied to traditional, re-heat only, fast food or new technology catering. Department of Health, (1993). The application of quality management principles not only provides direct benefits but also makes an important contribution to managing costs and risks. Benefit, costs and risk management considerations are important for the organization, its customers and other interested parties (Foskett et al 2003).

1.1 Problem Statement

Quality Management Systems mainly focus on a combination of processes used by an organization in food processing and production to ensure that the degree of excellence specified is achieved. Many researchers have also established that there have been no systematic and effective implementation of management systems in the hospitality industry anywhere in the world (Taylor, 2008a) and it is widely recognized that there are barriers to the implementation of HACCP and ASC (Taylor and Forte, 2008). However, little information is readily available to hospitality operators in Kenya making them unaware of the requirements and benefits of Quality Management Systems. This study therefore aimed at finding out the extent of adoption and awareness of two quality management systems in the hospitality and catering industry in Kenya.

1.2 Research Questions

i. What is the extent of adoption of HACCP and ASC quality management systems in the hospitality industry in Kenya?
ii. Which quality management system is preferred in the hospitality industry in Kenya?

iii. What are the levels of knowledge and information available on quality management systems to the hospitality industry operators in Kenya?

iv. What are the impacts of quality management systems on the operations of the hospitality industry in Kenya?

v. What barriers hinder the adoption of quality management systems in the hospitality industry in Kenya?

2. LITERATURE REVIEW

2.1 Importance of quality management Systems

It has been advocated that food production and preparation should be managed using a risk-based approach, and a range of reviews have attempted to quantify the relative importance of different factors in terms of their association with foodborne disease outbreaks (Coleman and Griffith, 1998). Worldwide epidemiological research identified major risk factors contributing to food-borne disease outbreaks (WHO, 2000). Typically these factors include inadequate heat treatment, inappropriate storage of foods, infected food handlers and cross-contamination (WHO, 2000), Data on these contributory factors are of great importance for assessing risks as they offer a starting point for training interventions used for the identification of critical control points within HACCP (McNab, 1998).

2.2. Quality Management Systems

Quality management systems (QMS) means the combination of processes used to ensure that the degree of excellence specified is achieved. A Quality Management System can be expressed as the organizational structure, procedures, processes, and resources needed to implement quality management (ISO 9001:2000). The adoption of quality management systems should be a strategic decision of an organization. The design and implementation of an organization's QMS is influenced by varying needs, particular objectives, the products provided, the processes employed and the size and structure of the organization.

2.3. Hazard Analysis and Critical Control Points (HACCP)

HACCP is a process which critically examines each stage of the process that may appear vulnerable in terms of producing a hazard into food, then particular attention is given at that point. The HACCP system was introduced as a method of improving food safety management in the hospitality industry. HACCP is a risk-based system that is the international standard for food manufacturing businesses, but it is complex, paper-based and requires technical expertise and a large amount of resources to implement. As a result, it has not met with a great level of success in the hospitality industry and the majority of chefs believe that it is too complicated, onerous and nothing more than bureaucratic sledge hammer (Forte, 2002).

HACCP process critically examines the food production flow until the food is consumed. Once potential hazards in the food's journey are identified, attention is given to eliminate or minimize the hazard (Foskett, et al 2003). HACCP must not be seen as a sophisticated and complicated program intended only for large operators. To some extent, every food has its critical point which makes food production so vulnerable. Those involved in food production must be aware of these stages where hazards occur and make every effort to eradicate or minimize them by paying extra attention to hygiene at the crucial stages in the production cycle. A program of periodic

monitoring can ensure that these parts of the food production chain are properly monitored and kept safe (Codex, 2003).

2.3.1. Using HACCP

HACP forms a common approach in the identification of hazards, critical control points and limits hence, successful application requires full commitment and involvement of the management and workforce. It requires multidisciplinary approach with experts in different fields and application should be reviewed and necessary changes made when any modification is made in the product, process or any step. (Foskett et al 2003). To introduce HACCP there is need to identify a flow diagram showing the path of the food throughout its manufacture, product details so that any special characteristics that could cause a problem are noted and where in each stage there is a likelihood of a hazard occurring, the risk should then be assessed as high, medium or low and before monitoring and control processes can be implemented (Foskett, et al 2003).

The adoption and implementation of HACCP involves 7 Principles as shown in table 1

Table 1: The seven principles of HACCP

Preliminary procedures	Assemble HACCP team Describe product Identify intended use Construct flow diagram
	On-site confirmation of flow diagram
Principle 1	List all potential hazards Conduct a hazard analysis Consider control measures
Principle 2	Determine critical control points (CCPs)
Principle 3	Establish critical limits for each CCP
Principle 4	Establish a monitoring system for each CCP
Principle 5	Establish corrective actions
Principle 6	Establish verification procedures
Principle 7	Establish documentation and record keeping

Source: Codex, 2003

2.4 Assured Safe Catering (ASC)

This is a system developed for and with caterers to control food safety problems. It is based upon some of the principles of Hazard Analysis and Critical Control Points (HACCP). It involves looking at the catering operation step by step from the selection of ingredients right through to the service of the food to the customer. With careful analysis of each step of the catering operation anything that may affect the safety of food is identified. The caterer then determines when and how to control the hazard. ASC helps prevent safety problems by careful planning in easy steps, it emphasizes the importance of safety precautions in the preparation, handling and temperature control of food, it is vital that catering staff are properly trained if an ASC system is to work effectively and that record sheets are kept of controls which are in place (Foskett et al 2003). The manager or owner of a catering or food service business has to be able to satisfy each customer's demands and expectations that food: Arrives as ordered, is at the right temperature, looks appetizing and tastes good, gives value for money, but above all –it must be safe. Food poisoning may occur even when food has been prepared in clean kitchens if the food is not stored, prepared, cooked and served properly.

2.4.1 Legislation and Assured Safe Catering (ASC)

Food safety legislation requires that adequate food hygiene standards are maintained in catering premises and that food intended for consumption is fit. If food is not fit to eat or there are poor hygiene standards, legal action can be taken resulting in financial loss to the business, closure or even imprisonment. If implemented correctly, the ASC system provides caterers with a sound basis to demonstrate that all reasonable steps have been taken to prevent hazardous food reaching the consumer. The system outlined enables the caterer to concentrate resources on the most effective ways to prevent unsafe food reaching the consumer by identifying critical control points**.** Department of Health, (1993)

2.4.2 Establishing an Assured Safe Catering System

Most catering operations follow a similar pattern of selection of foods and ingredients, delivery, storage, preparation, cooking and service. There may be other steps of chilled or hot holding, reheating, intermediate transport etc but essentially, most catering operations are very similar. Where possible and where it is helpful, records should be kept as these help managers check that food safety measures are adequate and working. Records also provide useful information if there is a query from an health officer or customer. The type of equipment available to monitor some critical control points may automatically give records, for example thermo graphic charts on refrigerators. Where manual checks are taken at a critical control point and the manager decides that it is necessary to keep records, consideration needs to be given to the type of recording sheets needed. These should be kept as simple as possible, and training must be given to staff to ensure that records are completed correctly. Department of Health, (1993).

3. METHODOLOGY

The study was carried out in Nairobi Kenya, The research design was a survey design, The target population comprised of managers from selected star rated hotels, hospitals and other catering establishments. The hotels and other establishments were selected through stratified random sampling. This was followed by purposive sampling for the managers which enabled the selection of respondents who were in a position to give the required responses. Primary data was collected through the use of questionnaires consisting of both open-ended and closed-ended questions while secondary data was sourced from relevant published and unpublished literature. Interviews were conducted in most cases to gather additional information. Data was analysed using the statistical package for social-scientists (SPSS) and Microsoft excel.

4. RESULTS

4.1 General Information

Majority (77%) of the respondents were managers in hotels while 23% were from hospitals and other catering establishments. The ratings of the hotels were as follows (37%) of them were 5 star, (13%) were 4 star and (27%) were 3 star. The establishments not rated (23%) included hospitals and other catering operations such as airline catering services. The need to sample non hotels was occasioned by the need for a comparison on the trends with other catering operations. All respondents were at management positions in the establishments , (13%) were from non-hotel organizations and they all had the title *"Quality Controller"*, (40%) were Executive Chefs or their

assistants mainly in hotels whereas (47%) of the respondents were managers. Staffs in senior management level were targeted because the implementation of QMS is mainly a management function and a strategic decision, although it is a multidisciplinary concept that includes personnel from all fields and departments in any establishment. As depicted in table 1, majority (57%) of respondents interviewed had knowledge of both the two quality management systems (HACCP and ASC), 33% only knew about HACCP, 3% only knew ASC and 7% did not have knowledge of either systems. This clearly indicates that hospitality operators know that quality management systems exist.

HACCP system was the most popular among the respondents who knew about the systems. The small percentage that was not aware of the system was insignificant. Majority (60%) of the respondents did not use QMS despite the fact that they have knowledge, reasons cited included: costs involved and the size of their establishments. 40% of the organizations used quality management systems. This indicates that the systems were not readily implemented and used in the hospitality industry although there was adequate awareness of their existence. Most organizations that used the systems cited their advantages ranging from legal protection, production of quality products, customer satisfaction and international recognition. For those that had the system, all (100%) of them used HACCP system hence, it was evident that HACCP was the most popular quality management system among hospitality operators. This could be attributed to the fact that most of the organizations got to know about it from the same standardization bodies. HACCP system is more popular among other industries like Fisheries, and the Codex Committee of Food Hygiene had been actively promoting the use of HACCP for food safety in conjunction with the revision of Codex codes of hygienic practice. HACCP was also discovered to be important in international trade hence crucial in attraction customers travelling from international markets. (Codex, 2003)

Table 2: *General information*

Variable	Category	Percentage (%)
Rating of establishments	3 star 4 star 5 star Not rated	27% 13% 37% 23%
Position held by respondent	Quality controller Executive Chef Hotel Managers	13% 40% 47%
Awareness on quality management systems	HACCP ASC HACCP & ASC Not aware	33% 3% 57% 7%
Organizations using either of the systems – HACCP or ASC	HACCP &ASC None	57% 43%
Levels of knowledge and information available to hospitality Operators	Management Standardization bodies	50% 50%
Other forms of information they had on the systems they had in place	Consultants Auditor and Standardization bodies Internet	40% 40% 20%
Whether they intended to adopt the system in future	Yes No	50% 50%

Source: Data Analysis

4.2 Levels of knowledge and information available to hospitality operators

Half (50%) of the respondents, obtained the information on the QMS they use from standardization bodies like Danish Standards and ISO Certification organizations. The other half (50%) got their information from top level managers before the system was implemented; this was attributed to the fact that adoption and implementation of QMS is a strategic management decision.

4.3 Other forms of information they had on the systems they had in place

On investigation of the knowledge and information available to hospitality operators, from the establishments that used QMS, 40% of them use auditors like Kenya bureau of standards (KEBS) and ISO Certification documentation for information on the systems they had, 20% relied on the internet for additional information and 40% depended on consultants like SGS for their information. Additional information was realized to be of utmost importance to the success of the systems to ensure they were operating efficiently, aided in monitoring process, establishing corrective actions and verification of the procedures. 60% of the respondents that did not use the systems were asked to explain how they manage to ensure quality production. 28% of them concentrated on monitoring of the foods and beverages at every point of production to ensure hygiene standards are maintained and products of the highest quality produced, 17% rely on their competent staff for their quality products and argued that for any organization to succeed the staff had to be adequately trained and experienced, 5% focused on medical examinations of food to ensure quality probably because it is a government requirement, to avoid contamination of food by infected food handlers and also to guard against legal liability in case of food related complaints. 11% focused on maintaining high standards of hygiene, since hygiene was a major component of food processing, production, service and storage while 17% used supervision and briefings as their means of ensuring quality products. 22% said quality was as a result of their organization's operating procedures that governed the operations and handling of all food products and equipment based on principles set by the organization. It is important to note that regardless of the measures put in place by the establishments almost all were either directly or indirectly requirements of or part of existing QMS and hence more information should be made available to them in order to adopt the systems.

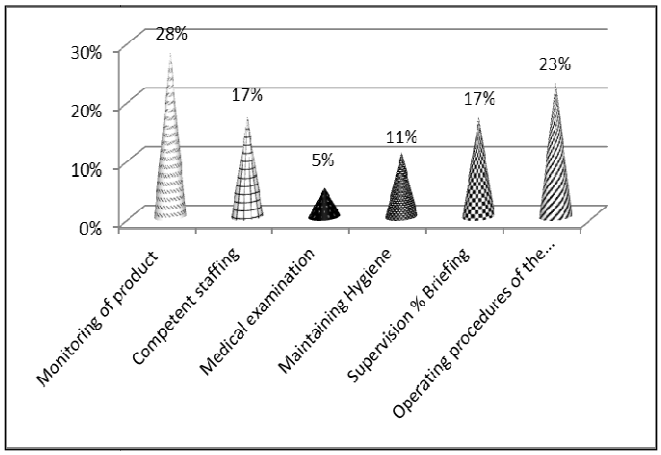

Figure1. How organizations that do not use QMS ensure production of quality products (***Source: Data analysis)***

4.4 Efficiency of the system

From figure 2, 44% of the respondents were content with the systems they had because no complaints had arisen meaning their customers were satisfied with the quality of their products presenting no need to adopt any other, 22% was because the system ensured production of quality product based on the standards set by the organizations on the level of quality. However, from these findings the standards could have met set procedures but no met customer expectations. 28% were those representing systems that ensured organisational standards were maintained. Again, organizational standards could not necessarily mean customer needs, wants and expectations and hence created a gap between provision and expectation. A small percentage (6%) had the systems because it was a regulatory requirement. It was then concluded that most of the organizations sought to ensure quality production for a variety of reasons ranging from customer needs to organizational needs but to a minimal extent because of local authority or government regulations.

4.5 Organizations without QMS

Among the establishments without QMS, 50% intended to adopt the systems in the near future because these systems had many advantages, while the other (50%) had no intention of adopting the systems because of various reasons ranging from the small size of the operations to the costs involved in the adoption of the systems. HACCP system was identified as the most popular among hospitality operators because most of the information available to the operators on quality management was on HACCP and most of the other operators in the industry used it. Those that had not yet decided on the quality management systems to adopt cited reasons such as management laxity and lack of adequate information on the systems.

4.6 Factors that hindered the adoption of Quality Management Systems

From the findings, 22% of the organizations did not intend to adopt QMS because of the small size of their units, and did not require QMS, 22% were hindered by the costs involved,34% due to lack of information while 22% had no intentions of adopting QMS because the systems they had were satisfactory. These finding indicated that there was reluctance in adopting QMS due to various reasons. The results of the findings are as shown on figure 3.

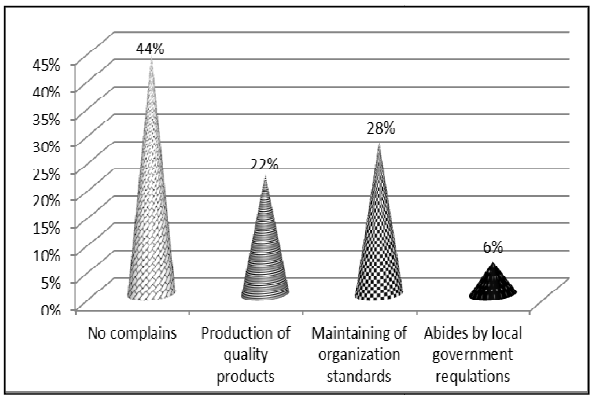

Figure 2. Efficiency of the system

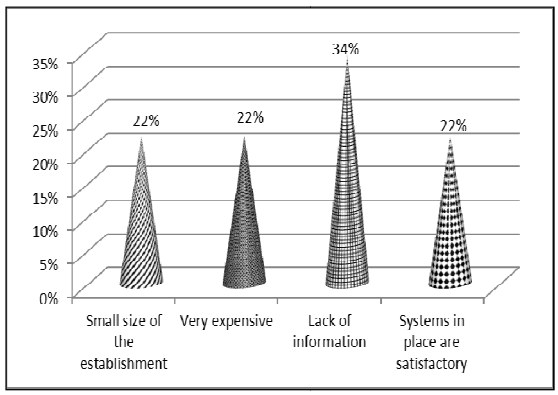

Figure 3. Reasons why organizations without Q MS did not intend to adopt any QMS. (Source: Data analysis)

4.7 Challenges faced by organizations in the adoption of the QMS systems

It was evident from this research that the adoption of Quality management systems was not a smooth process for organizations. 20% of the respondents cited costs (financial) in adoption of the systems as a major challenge. Training of staff, purchase of new equipment and refurbishment of the establishment and in some cases setting up a laboratory for inspections were some of the factors that created financial strains in adoption of QMS. 20% felt that management commitment was a challenge. In some organizations especially where the adoption of the system was not a management initiative, getting them to allocate funds for the process and training time for staff was a major challenge as they viewed the process as an unnecessary expense. 30% faced staff resistance for the simple reason that the concept was new in the hospitality industry and involved intense training hence, staffs at some units were reluctant to adopt the system. The approach by staff was discovered to be very crucial in the adoption of the systems. 30% cited inadequacies in terms of knowledge and information as their challenge which means there was not enough information available after the system was adopted and this required intense research and training after implementation.

4.8 Rate of success of QMS in quality management and profitability

Majority (70%) of the respondents revealed that QMS were very successful in terms of improving and maintaining the quality of products which shows that the quality of their foods and beverages were influenced positively by the system while 30% rated the system as successful in quality management. Majority (60%) of the respondents also felt that QMS were very successful in increasing profitability of the organizations while 40% rated QMS as successful in increasing profitability. This meant that profits increased considerably with the implementation of the system. Results are as shown on table 3.

Table 3: *Rate of success of QMS in quality management and profitability*

Variable	Category	Percentage (%)
Quality improved as a result of QMS	Successful Very successful	30% 70%
Increase in profitability from use of QMS	Successful Very successful	40% 60%

Source: Data analysis

4.9 Challenges faced by organizations in the implementation of the QMS systems

Maintaining of standards required once the system is adopted was rated by 40% of the managers as the biggest challenge faced by organisations in the implementation of QMS. QMS require constant monitoring, verification and documentation to be maintained so that the system is kept at the required level of operation. 20% cited the audit process required to be carried out for the systems as a challenge. A constant audit of the system is done by internal and external auditors and failure to abide by the requirements at the audit lead to legal prosecution or revocation of the permit of operation. 30% indicated that the dynamics involved in the implementation posed a challenge since the adoption and implementation of HACCP involved a detailed 7 Principles each of which must be followed in detailed. This posed one of the greatest challenges in the implementation process. 10% of the respondents revealed that difficulties associated with the documentation requirements of HACCP, where each and

every step in HACCP required to be documented and records kept for audit and inspection purposes was an intense process especially if done manually. Results are shown in figure 4. 40% of the respondents attributed the good quality of their products to the QMS they used, 20% associated the prevention of hazards and legal protection to the system. A small percentage of 10% attached the satisfaction of their customers to the system while 20% associated it with international recognition of the organization. Another 10% attributed other benefits such as employee satisfaction and competitive advantage to the systems they used. The results are shown in figure 5

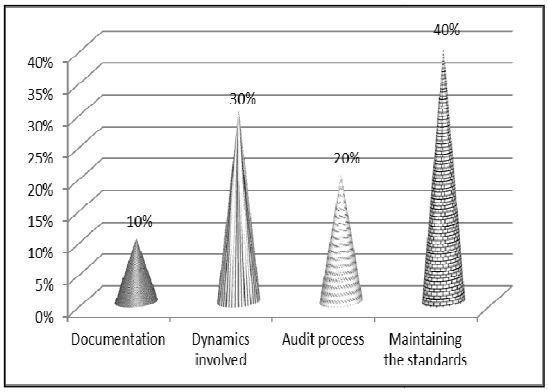

Figure 4: Challenges faced by organizations in to the implementation of the QMS systems
Source: Data Analysis

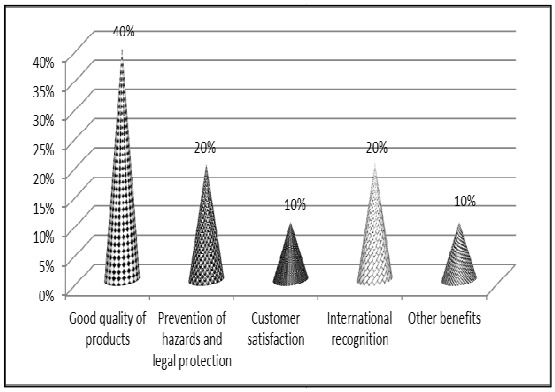

Figure 5: Analysis of the overall benefits of QMS organizations that used the systems
Source: Data Analysis

Majority (97%) of the respondents agreed that QMS were beneficial while only 3% did not share this opinion mainly because they were not aware of any of the systems.

5. CONCLUSION

From these findings it was evident that not many hospitality establishments had adopted the QMS despite being aware of their existence, the processes involved in implementation, benefits and disadvantages were spelt out. It was discovered that the HACCP system was the most popular among hospitality operators, and that majority of the respondents rated the systems as beneficial. However, it is important to note that like any other system, QMS had flaws and in order to succeed hospitality operators must work around them to fully reap their benefits. The study recommends adoption of Quality Management Systems and training on the systems to be introduced by hospitality training institutions, In addition, standardization bodies and consultants should create awareness on the systems through organised training and workshops. Finally, regulatory bodies like Kenya Bureau of Standards and tourism organizations should get involved in training on the QMS.

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