

IMPLEMENTATION BENEFITS AND CHALLENGES FOR MALAYSIA FOOD MANUFACTURES: A CASE STUDY ON HACCP CERTIFIED COMPANY

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ABSTRACT

Hazard Analysis and Critical Control Point (HACCP) is a preventive system in assuring the safety of food products and finished products for consumption. The aim of this research is to study the benefits and challenges of HACCP implementation on food manufacturers. This study highlighted the procedures of the implementation, objectives of implementing this system and the problem of implementing this system. This research was conducted through interview on a HACCP certified company in Kedah. The result of this interview showed that the biggest challenges of implementing this system are communication issue that is related language barriers, staff motivation and lack of awareness. The outcome of this research showed that through the implementation of HACCP, there are reduction in customer complaints, sales increase and products quality improvement.

Keywords

Food safety, HACCP, benefits, challenges

1.0 INTRODUCTION

Today, food manufacture is not only responsible to produce merely a food, it also responsible to produce a safe food. However, this has been achieved through the development of Hazard Analysis of Critical Control Points (HACCP) plan as part of the food companies' safety assurance systems (Motarjemi & Mortimore, 2005).

HACCP is a scientific and systematic manner for assuring food safety (Nguyen, 2004), a tool for the development, implementation and management of effective safety assurance procedures (Ropkins & Beck, 2000). This system can be applied to control any stage in the food supply chain and is designed to provide enough feedback to direct corrective activities (Unnevehr & Jensen, 1998). HACCP is widely acknowledged as the best method of assuring product safety and is becoming internationally recognized as a tool for controlling food borne safety hazards (Khandke & Mayes, 1998). It has

gradually gained popularity and acceptance and is currently considered as a prerequisite should a food manufacturer wish his products to enter the international market (Arvanitoyannis & Mavropoulos, 2000).

Henson and Caswell (1999) found that consumers showed more interest in food quality and safety than they did a few years prior to 1999. Moreover, it has been suggested that HACCP system can support inspection by regulatory authorities (WHO, 1993). So, the implementation of the HACCP system in food manufacture industries can result in benefits to government and consumers.

However, there's still some challenges implementing this system such as lack of knowledge, lack of resources, operation complexity, operation variability and etc. An analysis shows that the most critical challenges are the limited knowledge and skills for HACCP implementation and lack of commitment to food safety by employees. (Christos & Dimitrios, 2011)

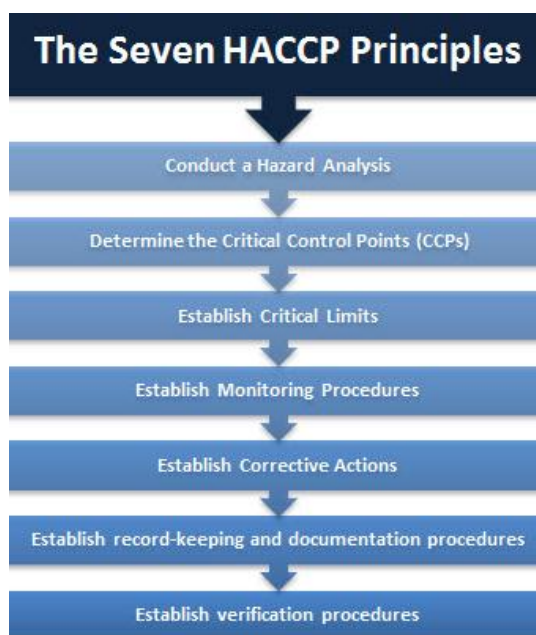
The objective of the project is to identify the benefits of HACCP implementation and the challenges of HACCP implementation in food manufacture industries.

2.0 LITERATURE REVIEW

Food safety includes everything in the processing, preparation or handling of food to ensure it is safe to eat. Food can be easily contaminated from the initial producing process until packaging stage. Some raw material may already contain bacteria, parasites or poisoning residues. The virus can be spread over all processes if the food products are not handled properly. Failure to control or store the food properly also cause to further contamination.

2.1 Hazard Analysis Critical Control Point (HACCP)

In order to better govern safe practices in food manufacturing, a quality system known as Hazard Analysis Critical Control Point (HACCP) was introduced. Hazard Analysis Critical Control Point (HACCP) is the international standard for managing food safety (Codex, 2009). The HACCP system is the internationally agreed approach to food safety control. The reference standard for implementation of HACCP is published by the Codex Alimentarius Commission of the joint United Nations Food and Agriculture Organisation (FAO)/WHO Food Standards Programme (Codex Committee on Food Hygiene, 1993; Codex Committee on Food Hygiene, 1997).



2.2 Important of HACCP

As exports becoming more prevalent in the food industry, food safety will continue to be a growing concern (Tim et al., 2011). Recent trends have shown that programs such as HACCP are increasingly becoming a necessity, rather than an option (Nguyen et al., 2004). Large food retailers have set the bar for suppliers to become HACCP certified, or to develop a HACCP-like environment in order to win retail contracts. Many food manufacturing facilities have begun to review their health and safety procedures and are moving towards HACCP certification (Tim et al., 2011). Governmental legislation will include HACCP requirements in some countries and regions. In the UK as in all EU countries, Regulation 852/2004 requires application of a system based on HACCP principles to all food business operations, with

certain specific exceptions (European Commission, 2004).

2.3 Benefits of HACCP Implementation

Henson and Caswell (1999) found that consumers showed more interest in food quality and safety than they did a few years prior to 1999. Moreover, it has been suggested that HACCP system can support inspection by regulatory authorities (WHO, 1993). Thus, the implementation of the HACCP system to food processing can result in benefits to industry, government and consumers, promoting, in this way, a potential improvement of food safety and prevention of foodborne diseases.

2.4 Challenges of HACCP Implementation

One of the major problems regarding the effective implementation of HACCP is that employees in food industry often lack interest and they often have a negative attitude toward the food safety programmes (Griffith, 2000). Taylor and Taylor (2004) found that the main barriers that hindered the effective HACCP implementation were due to HACCP being considered as difficult, burdensome and unnecessary. They explained that the interplay of barriers at knowledge, attitude and behavioral levels could account for the problems in effective HACCP implementation. Gilling et al. (2001) carried out a survey aiming at identifying the problems that hinder the adherence to the internationally acclaimed HACCP guidelines. Their study revealed that there was a complex range of knowledge, attitude and behavior-related impediments that hampered the conformance to this set of guidelines. Besides knowledge, "attitude" is an important factor that ensures a downward trend of food borne illnesses (Bas et al., 2007).

3.0 METHODOLOGY

This chapter will be discussing about what are the process and steps that are taken in order to collect data and information that are needed to conduct this research. Basically, the goal of this research is to prove that the hypothesis is accurate. There are seven types of research. They are experimental research, creative research, descriptive research, ex post facto research, action research and expository research (Goddard and Melville, 2004).

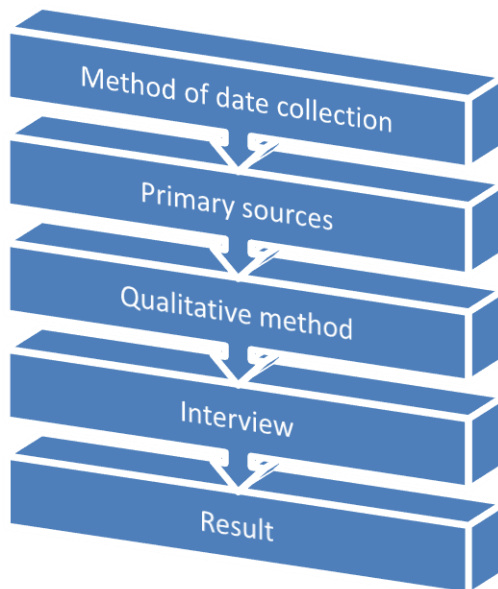
3.1 Data source

Data source in this paper was the primary data. Primary data does not actually exist until and unless it is generated through the research process as part of the consultancy or dissertation or project.

Qualitative research is usually used in exploratory research while quantitative is used to follow up and quantify the qualitative findings (Hair et al, 2009). Hence, this paper conducted the data collection via interview session. In the interview session, the owner of the company has been interviewed and primary data collected from the conversation.

3.2 Research Design

A research design is a framework or guide used for the planning, implementation, and analysis of a study. It is the plan for answering the research question. Different types of questions or demand gain different types of research designs. Therefore, it is important to understand the different types of research designs. Usually, research designs are classified into quantitative or qualitative. However, qualitative, quantitative and mixed research methods are often used for descriptive study. In this paper, qualitative research is going to be used in order to collect the data and information via interview session.



3.3 Qualitative Approach

Qualitative data is data in the form of descriptive accounts of observations or data which is classified by type (Ghosh and Chopra, 2003). Hence, this paper was used the qualitative approach in order to collect the information in more depth and detailed about the objectives of this paper. Primary data was generated from the interview session which conducted in Lai Hin trading. The owner of the company has been interviewed. The question was developed based on the company background, the HACCP system implementation, and challenges

faced by the implementers and the benefits gained from the system.

3.4 Data Collection Method

Interviews are a major category of technique for collecting data through questioning and are acknowledged as being some of the most effective ways of collecting data in social sciences (Healey and Rawlinson, 1994). This is where a respondent is interviewed in some detail and often for a protracted period in order for the researcher to explore topics, issues, and responses in some depth. So, in the interview session, the farmland has been visited and interviewed. Then, the interviewee has been asked about the company background and the implementation of the HACCP system. After the interviewee has been asked such question, then, experiences or special cases relate to the questions which have been asked, also shared by the interviewee in order to show the information collected more reliable. Well, the conversation of the interview session has been digitally recorded as well for the review purpose and transcribed after the interview in order to make sure the information collected is correctly and accurately. With this face to face in-depth interview, the data and information collected will be more accurate, validity and reliable.

4.0 FINDINGS & DATA ANALYSIS

4.1 Introduction

This paper is recording the result that gained from the interview. The information collected actually is based on the interview session with Mr. Liu. , the implementation of HACCP system had been identified in the aspect of objective, procedures and aims. Last but not least, the expectation of the HACCP system and the biggest challenges faced by the implementer also has been identified.

4.2 Overview and Company Background

Lai Hin Trading was founded in year 1998, is one of the leading market producers of salted duck eggs in Malaysia. Lai Hin Trading Located in Bandar Baharu, Kedah, which is approximately 1.5 kilometres from North-South Highway (Exit at Bandar Baharu toll), the salted duck egg manufacturing facility is supported by their own duck farm which produces more than 60,000 fresh duck eggs daily.

Lai Hin Trading is passionate about the quality for the produce and they go to great lengths to ensure that the poultry enjoy the best of living conditions. The 12 hectare farmland in Serdang, Bandar Baharu

enjoy clean and quality environment where the ducks can wander as they pleased. What are the results of this remarkable, unspoilt environment? The current population of 90,000 breed of Khaki Campbell domesticated ducks which are kept for its high level of egg production, produces an average of 60,000 eggs per day.

The vision of the company is inspiring and harmony working environment, together with high quality and food safety management system as well as leadership approach, in order to be the preferred employer and supplier of choice for quality and safety products. The mission of the company are dedicated to quality and food Safety, continual improvement to provide quality and safety products that meet customer's needs. The shared values of the company are (i) added value for customers, (ii) great environment to work, (iii) recognize for quality, (iv) results oriented and (v) safety awareness.

4.3 HACCP Implementation in the company

Lai Hin Trading first implement the HACPP system in year 1998, was recommended by Mr Liu's son. The objective of implement this HACCP system is to improve the products qualities and gaining customer's confidence level. By implementing this system, the quality of the products is approved by the related authority, so customers can put the trust on the company.

The HACCP system application is not complex. Mr. Liu explained that an application form was filled up and send to the department upon process, after everything is ready, the owner of the company have to submit the registration fees. This whole application process was just taken few weeks to be complete.

For the HACCP implementation, the company should first assemble a HACCP team to assure that the appropriate product specific knowledge and expertise is available for the development of an effective HACCP plan. The scope of the HACCP plan should be identified. The scope should describe which segment of the food chain is involved and the general classes of hazards to be addressed. After the hazard was determined and the cause was identified, corrective actions are taken to reduce the defects of the products.

After all the processes are completed, a recordkeeping process is done during 30 days.

4.4 Benefits of HACCP Implementation in Lai Hin Trading

From the interview, few benefits were identified by Mr. Liu. The first and main benefit is increase in

sales. This is because the quality of products was approved by the related authority, customers are more likely to purchase the products. The quality of the products are more convincing than other similar products in the market but doesn't certified by HACCP system.

On the other hand, customer's complaints also reduce because the probability of getting defects output are reduced. The company now gained customer's trust because HACCP certification is like a standard for a customers to decide whether the products that the purchase is better or not in terms of quality.

Last but not least, the quality of products improved. Before implementing this system, the company produce the products no matter the raw material achieve the standard of quality or not, they just care about the amount of outcome. But after implement this HACCP system, the system will help to identified products hazards, then eliminate the material that not achieve critical limits, only quality-prove products produced.

4.4 Challenges faced by Lai Hin Trading

From the interview, Mr. Liu point out the biggest challenges is the communication issues which is related to the language barriers. Mr. Liu says he is only graduated from primary school, so he able to speak and understand a little but malay and english language. So the language is the biggest barriers for Mr. Liu when deal with HACCP system. For this, he authorizes his son to handle everything about HACCP like document, set of procedures and etc. He says that he only needs to sign the document after his son explained everything on his mother language.

Besides that, staff motivation is also a challenge for the company. Employee attitudes are actually biggest challenges for all business, to ensure that the successful of a business, the commitment of staff is highly stress. Mr.Liu pointed out that the main problem of his staff is due to their laziness. But Mr. Liu is a tolerated and understanding employer, he won't take it so strict about this issue as long as the staffs complete their staff, He is compromise with that.

Lack of awareness is also a challenge that should be stress. Mr. Liu says sometimes their staff is over careless, they don't really do their parts like example, the food that used to feed the ducks are expired but the staff did not noticed about it, so it will cause to food contaminated. For this, Mr. Liu will warn the staff and if the same things happened again, strictly action will be taken.

5.0 DISCUSSION & CONCLUSION

5.1 Discussion

This paper focuses on the HACCP system implementation in Malaysia food manufactures company. According to the results, it is found that HACCP system do bring benefits to the implementer. On the other hand, the implementer also faces some challenges as well. Hence, the information gathered is concerning the benefits of HACCP system and the challenges through the implementation.

The Hazard Analysis Critical Control Points (HACCP) system identifies critical control points in the production procedure that are essential to monitor and control product safety. Hence, this paper has indentified the implementation of HACCP system in the company, Lai Hin Trading does bring them benefits such as improvement of quality, increasing in sales, reduce customer's complaints. However, the company does face some communication issues through the implementation such as language barrier, staff motivation and lack of awareness.

5.2 Limitation

There are several problems that the researcher has to face when collecting the information. One of the major difficulties is the interview session conducted by owner of the company but not the person who in charged the HACCP implementation in the company. More or less, this kind of situation will affect the quality of information gather. Actually this study is going to interview the manager of Lai Hin Trading, which is the owner's son. However, when the interview session was conducted, the person who came for the interview session is the Owner of the company. Hence, some of the information needed is hard to get.

Next, the information collected from a single company only, thus the finding of result analysis might be limited and there is lack of comparing information in generalizing the results. Besides that, appointed an interview with Lai Hin Trading consumes times because the farmland located in the area far away from our campus. Besides, there are some difficulties to collect the information deeply. In addition to that, the interview session also was conducted at working hour and the interview was short due to their busy working period.

Besides that, there are also problems in finding company respond to the interview. Most of the company giving excuses that they are busy and have other important stuff to do, not entertain any interview. It may be possible that they afraid that

company secret will leak out as the interview carry out by the person that they dint know and no relationship in their business. It ,ay be possible also they afraid that will giving wrong information And data so they refuse to have the interview.

5.3 Recommendations

This paper has been conducted in the pattern of qualitative, which was gone through with an interview session with the owner of Lai Hin Trading which is one of food manufactures company that implement HACCP in Malaysia. So, there was a limitation of gathering more reliable information if compare to conduct this information gather by using both qualitative and quantitative method. Questionnaire can be distributed to the food manufacturers company that implement the system in whole region of Malaysia. With this effort, then the result gathered will be more accurate and reliable.

Based on the benefits identified through this paper, there should be a further research on the system procedures and hazards identification. From this identification, a comprehensive model or tool which is able to improve the quality performance of the products can be introduced. However, in order to create such a comprehensive model, a deep study and research have to be carried out. With more data and information gathered, then a comprehensive model only can be created and eventually the quality or the problem face by the food manufactures company can be improved.

5.4 Conclusion

This study had been carried out to identify benefits of the HACCP system in Lai Hin Trading. Besides, the challenges faced by the implementer also had been identified. From the result, the overall HACCP system performance is very good, it does bring benefits to the company. However, there is still an improvement space to allow the implementer to do better in future and built a better image for the company itself.

REFERENCES

- Chountalas, P., Tsarouchas, D. and Lagodimos, A. (2009), "Standardized food safety management: the case of industrial yoghurt." *British Food Journal*, 111 (9), 897-914
- Fotopoulos, C., Kafetzopoulos, D. and Gotzamani, K. (2011), "Critical factors for effective implementation of the HACCP system: a Pareto analysis." *British Food Journal*, 113 (5), 578-597

- Fotopoulos, C.V., Kafetzopoulos, D.P., and Psomas, E.L. (2009), "Assessing the critical factors and their impact on the effective implementation of a food safety management system." *International journal of Quality and Reliability Management*, 26 (9), 894-910
- Fotopoulos, C.V., Psomas, E.L. and Vouzas, F.K. (2008), "ISO 9001:2000 implementation in the greek food sector." *The TQM Journal*, 22 (2), 129-142
- Griffith, C.J. (2006), "Are we making the most of food safety inspections? A glimpse into the future." *British Food Journal*, 107 (3), 132-139
- Griffith, C.J. (2006), "Food safety: where from and where to?" *British Food Journal*, 108 (1), 6-15
- Griffith, C.J., Livesey, K.M. and Clayton, D. (2010), "The assessment of food safety culture." *British Food Journal*, 112 (4), 439-456
- Grigg, N.P. & McAlinden, C. (2001), "A new role for ISO9000 in the food industry? Indicative data from the UK and mainland Europe", *British Food Journal*, 103 (9), 644-656
- Kane, K. (2011), "Evolving methods of HACCP: costs and benefits." *Worldwide Hospitality and Tourism Themes*, 3 (5), 413-421
- Khatri, Y. and Collins, R. (2007), "Impact and status of HACCP in the Australian meat industry." *British Food Journal*, 109 (5), 343-354