Hazard Analysis and Critical Control Points (HACCP) System at Five Star Hotel A Case Study of XYZ Hotel at Surabaya

Yonathan Setiapanca Piktono[1], Fitri Novika[1], Adhika Putra Wicaksono[1*]

[1]*Faculty of Business and Economics Universitas Surabaya, Indonesia*
[*]*Corresponding author. Email: adhikaputraw@staff.ubaya.ac.id*

ABSTRACT
This study aims to analyze the implementation of the Hazard Analysis and Critical Control Points (HACCP) system in the Receiving Division of a five-star hotel in Surabaya. As food safety is a fundamental component of service quality, especially in the hospitality industry, the HACCP system offers a structured preventive approach to identifying and controlling food-related hazards. The research highlights the steps taken by the Receiving team in hazard identification, establishing critical control points, setting critical limits, monitoring processes, and implementing corrective actions. The study also identifies limitations faced by the hotel, particularly in manpower and technical capacity for hazard detection, which may affect the consistency of HACCP implementation. This paper concludes that while the system is largely implemented effectively, certain improvements are necessary to ensure full compliance and maintain premium service standards

Keywords: *HACCP, food safety, receiving division, critical control points, hotel industry.*

1. INTRODUCTION

The rapid development of globalization has significantly impacted various aspects of life, including the tourism sector (Hayati, Fajar, Dibrata, Ngesti, & Ginanjar, 2023). However, the emergence of the Covid-19 pandemic in Indonesia brought major disruptions, particularly to the hospitality industry, resulting in a decline in room bookings for both star-rated hotels and other accommodation types (Adam, 2022). Despite these challenges, hotels continued to operate by implementing health protocols to maintain service quality and guest satisfaction.

In five-star hotels, the presentation of high-quality food is a mandatory standard. To meet this requirement, the raw ingredients used must be of premium quality. This is where the roles of the Purchasing and Receiving divisions become crucial. Purchasing is responsible for obtaining materials at the most efficient cost while meeting the required quality standards (Cahyo & Solikhin, 2015). Meanwhile, Receiving ensures that all incoming supplies match the order specifications in terms of quantity, price, and especially quality (Mahyudin & Suradi, 2018). To ensure the quality of service, especially in food preparation, five-star hotels require structured and standardized food safety management systems such as Hazard Analysis and Critical Control Points (HACCP). This method is not only applicable to food manufacturing but also increasingly relevant in the hospitality industry where food safety is a key element of guest satisfaction and brand reputation. Implementing HACCP in hotel kitchens helps identify, evaluate, and control food safety hazards, thereby enhancing the consistency and safety of meals served to guests. According to Mortimore & Wallace (2013), HACCP implementation in hospitality operations contributes significantly to maintaining high standards of food hygiene, reducing risk, and fulfilling customer expectations in premium service environments such as five-star hotels.

HACCP is important because it ensures food safety by analyzing potential hazards and establishing critical control points throughout the food chain. This system has been internationally adopted by governments to reduce the incidence of foodborne illnesses (Carrascosa, Millán, Saavedra, Jaber, Raposo, & Sanjuán, 2016). Additionally, HACCP supports the primary goal of the food industry in maintaining hygiene through the hygienic design of facilities, equipment engineering, and proper maintenance.

Despite having established procedures, problems can still arise. At XYZ Hotel Surabaya, issues were found in the receiving process, particularly related to quality control failures. The kitchen division occasionally received raw materials that did not meet the desired specifications, disrupting the production process and potentially affecting the quality of dishes served to guests. This issue highlights the critical role of the Receiving division as the main gate for

incoming supplies. If substandard raw materials are not properly detected and filtered, it can pose serious risks to food quality and ultimately to the hotel's reputation. Therefore, the receiving process must be carried out rigorously, comprehensively, and systematically.

Accurately assessing the feasibility of raw materials is essential to reduce the risk of accepting unfit supplies and to ensure food safety. The recurring problems indicate a flaw in the system and implementation of the receiving process, thus calling for a comprehensive review to enhance the effectiveness of the Receiving division (Mahyudin & Suradi, 2018; Cahyo & Solikhin, 2015).

2. LITERATURE REVIEW

2.1. Purchasing Management

Purchasing is an activity focused on procuring goods and services to meet the needs of an organization (Karttunen, Lintukangas, & Hallikas, 2023). This process involves several key steps, such as supplier selection, price negotiation, ordering, and transaction management to ensure that the goods or services purchased meet the required quality and are available on time. Purchasing management is a process within an organization aimed at acquiring goods or services to meet both its short-term and long-term needs by establishing contracts with suppliers who offer specific advantages, in the most efficient and effective way possible. According to Elliott-Shircore and Steele, as cited in Quayle (2006, p. 3), purchasing is a corporate process of contracting with third parties to obtain the goods and services required to achieve business objectives in a time- and cost-efficient manner. Furthermore, Gadde et al., as cited in Bedey, Eklund, Najafi, Wahrén, & Westerlund (2008, p. 11), state that "the Purchasing profession today includes four sub-functions over those different levels: ordering, negotiating, sourcing, and supply chain management in terms of synchronizing material flows." Based on this statement, purchasing involves four key functions: placing orders, conducting negotiations, sourcing suppliers, and managing the supply chain to ensure synchronized material flow.

2.2. Hazard Analysis and Critical Control Point (HACCP)

HACCP is a preventive food safety system in which every step of the food manufacturing process, including food product storage and distribution, is scientifically analyzed and controlled for biological, chemical, and physical hazards (Ibrahim, 2020). Essentially, HACCP is a preventive food safety system used to monitor, analyze, and control each stage in the process of food production, storage, and distribution. The hazard analysis serves as the basis for determining critical control points (CCP). Furthermore, this system also establishes action plans when hazards are detected, which helps minimize the risk of foodborne hazards (Utari in Sa'diyah, Ramadhani, & Harya, 2024). When properly applied, the system can be used to control any area or point in the food system that could contribute to a hazardous situation, whether it involves contaminants, pathogenic microorganisms, physical objects, chemicals, raw materials, processes, consumer instructions, or storage conditions (Pierson & Corlett, Jr., 1992, p. 2).

There are seven HACCP principles that have been developed and internationally implemented, and published by the Codex Alimentarius Commission in 1993 and the National Advisory Committee on Microbiological Criteria for Foods (NACMCF) in 1992, which include: 1) conduct a hazard analysis; 2) determine the critical control points (CCPs); 3) establish critical limits; 4) establish a system to monitor control of the CCP; 5) establish corrective actions; 6) establish procedures for verification; and 7) establish documentation (Mortimore & Wallace, 2013, pp. 3-4).

2.2.1. Conduct a Hazard Analysis

The first principle of HACCP is identifying hazard analysis, which involves recognizing biological, chemical, and physical hazards that may harm health (Pal, Gebregabiher, & Singh, 2016). This phase includes hazard identification, hazard analysis, and the development of prevention actions (Putri et al., 2022). The HACCP team must list food process steps, identify hazards at each step, and develop methods to control them (Ibrahim, 2020).

2.2.2. Determine the Critical Control Points (CCPs)

The second principle involves determining critical control points (CCPs), which are steps in the food process where control must be applied to prevent, eliminate, or reduce food safety hazards (Pal, Gebregabiher, & Singh, 2016). CCPs are points where a loss of control can lead to unacceptable risks (Pierson & Corlett, Jr., 1992). Establishing CCPs is crucial in reducing identified hazards (Putri et al., 2022), and the CCP decision tree method can be used to identify these points (Ibrahim, 2020).

2.2.3. Establish Critical Limits

The third principle is establishing critical limits (CL), which define conditions that distinguish between safe and unsafe products (Lutfi et al., 2019). Critical limits ensure that CCPs are properly controlled (Sari et al., 2022). These limits are set for factors such as temperature, time, and moisture levels (Pal, Gebregabiher, & Singh, 2016), and failure to meet these limits indicates unacceptable product safety (Prayitno & Tjiptaningdyah, 2018).

2.2.4. Establish a System to Monitor Control of the CCP

The fourth principle involves setting up a monitoring system to ensure that CCPs are under control. Monitoring involves observing or measuring CCPs to assess whether they are being controlled effectively (Prayitno & Tjiptaningdyah, 2018). The monitoring plan ensures that critical limits are not exceeded (Lutfi et al., 2019), and it includes determining who will monitor, when, and where (Sa'diyah et al., 2024).

2.2.5. Establish the Corrective Actions

The fifth principle is implementing corrective actions when monitoring indicates a deviation from critical limits at a CCP. Corrective actions are necessary to address deviations and restore control over the process (Ibrahim, 2020). These actions aim to prevent or eliminate hazards in the food (Ramli & Muqsith, 2022), and they are essential to protecting consumer health (Pal, Gebregabiher, & Singh, 2016).

2.2.6. Establish Procedures for Verification

The sixth principle is verifying that the HACCP system functions correctly, ensuring all CCPs are adequately controlled. Verification includes methods and tests to check HACCP plan compliance (Pal, Gebregabiher, & Singh, 2016). Regular verification is essential to ensure that all steps in the HACCP process are implemented correctly and effectively (Nugraheni & Ajeng, 2021).

2.2.7. Establish Documentation

The seventh principle is establishing documentation for all HACCP procedures and records. Documentation ensures that the HACCP system is followed properly and serves as evidence of food safety (Sari et al., 2022). Records of processes, monitoring, deviations, and corrective actions help demonstrate food safety for consumption (Ibrahim, 2020).

3. RESULTS AND DISCUSSION

2.1. Conduct a Hazard Analysis

The first step in implementing HACCP in the Receiving Division is identifying potential hazards. The team must analyze every stage in the supply receiving process to determine possible risks and how to control them. These hazards are classified into biological, chemical, and physical categories. In practice, the Receiving team focuses on biological and physical hazards. For biological risks, the team ensures that supplies are fresh, free from spoilage, and show no signs of mold. For physical hazards, they check for dirt, broken or damaged goods, and faded colors. However, the team is not equipped to analyze chemical hazards, as these require laboratory testing and specialized personnel, which are currently unavailable.

2.2. Determine the Critical Control Points (CCPs)

The second principle is identifying Critical Control Points (CCPs), which are steps where control can be applied to prevent or minimize food safety hazards. The team uses decision trees to identify CCPs in both processes and raw materials. For processes such as storage and receiving, a step is classified as a CCP if the answer to question 3 is "YES" and question 5 is "NO." For raw materials like onions, rice, meat, cheese, seafood, and dairy products, a different decision tree is used. If the answer to question 2 is "NO" and question 3 is "YES," then the raw material is identified as a CCP.

Table 1. Determination of Receiving Activity CCPs Based on the Decision Tree

Process Phases	Potential Hazards	Decision Tree					CCP/ Not
		P1 (Y/N)	P2 (Y/N)	P3 (Y/N)	P4 (Y/N)	P5 (Y/N)	
Supply Placement	Physical: Loading dock area and dirty supply transit area	Y	Y	N	N	-	Not CCP
Supply Reception	Biological: Indications of mold growth and harmful microorganisms	Y	Y	Y	-	-	CCP
	Chemical: Presence of pesticide residues, using colored plastic bags	Y	Y	N	Y	N	CCP
	Physical: Presence of foreign objects or dirt	Y	Y	Y	-	-	CCP
Freezer Inspection	Biological: Bacterial and mold growth due to freezer not being cold enough	Y	Y	Y	-	-	CCP

Description: Y=Yes, N=No

Table 2. Determination of Receiving Activity CCPs Based on the Decision Tree

Raw Materials	Decision Tree			CCP/ Not
	P1 (Y/N)	P2 (Y/N)	P3(Y/N)	
Onion (red, white, shallot, etc.)	Y	Y	N	Not CCP
Rice	N	-	-	Not CCP
Fruit	Y	N	-	CCP
Kitchen spices/seasonings	N	-	-	Not CCP
Meat (chicken, duck, goat, beef)	Y	N	-	CCP
Frozen food	Y	N	-	CCP
Cheese	N	-	-	Not CCP
Honey	N	-	-	Not CCP
Vegetables	Y	Y	Y	CCP
Seafood	Y	N	-	CCP
Cereal	Y	Y	N	Not CCP
Packaged milk (evaporated, full cream, pasteurized, UHT)	Y	Y	N	Not CCP
Flour	N	-	-	Not CCP

2.3. Establish Critical Limits

Critical limits are set for each CCP to define acceptable safety boundaries. For fresh produce and meat, limits include characteristics like freshness, color, firmness, and absence of foul odors or mold. If seafood such as shrimp or shellfish arrives, a kitchen staff member assists in inspecting it due to the Receiving team's limited expertise. For frozen goods, the critical temperature limit is -18°C, based on international standards that prevent bacterial growth and maintain food quality.

2.4. Establish a System to Monitor Control of the CCP

Monitoring ensures that each CCP stays within its critical limits. For CCP 1 (receiving supplies), inspections are conducted daily by both the Receiving and Kitchen teams during delivery. For CCP 2 (freezer temperature), monitoring is done twice a day—before and after noon—on all four freezers using thermometers. Results are recorded on a "Daily Chiller/Freezer Temperature Log" to track and ensure consistent temperature control.

2.5. Establish the Corrective Actions

Corrective actions are taken when monitoring shows that a CCP is not under control. One challenge in the Receiving division is the limited manpower—only two staff members handle all duties, making it difficult to consistently monitor freezer temperatures. Despite this, corrective actions for supply issues are properly implemented. Damaged or spoiled products are returned to suppliers, and unsafe packaging such as colored plastic bags is replaced with transparent, food-grade alternatives.

2.6. Establish Procedures for Verification

Verification confirms that the HACCP system is being implemented effectively. Two key documents are used in this process: the Food Delivery Temperature Log Sheet and the Daily Chiller/Freezer Temperature Log. These are filled in by the Receiving team and reviewed by the Executive Chef. The logs are used to evaluate product quality and storage temperatures, with monthly reviews to identify trends or issues that may need addressing.

2.7. Establish Documentation

All activities related to HACCP implementation are thoroughly documented. This includes records of hazard analysis, CCP identification, monitoring results, corrective actions, and verification outcomes. Proper documentation ensures traceability and accountability, which are essential for maintaining food safety standards and preparing for audits or inspections.

4. CONCLUSION

The implementation of the HACCP system in the Receiving Division of XYZ Hotel Surabaya demonstrates the hotel's commitment to ensuring food safety and maintaining high service quality standards. The team effectively applies the seven principles of HACCP in monitoring raw material safety, identifying critical points, and executing corrective actions. However, challenges such as limited staff and lack of chemical hazard testing capabilities highlight the need for resource enhancement. Strengthening inter-departmental coordination and investing in proper training or laboratory access are recommended to close the implementation gaps. Overall, HACCP has proven to be a valuable tool in minimizing food safety risks and upholding the reputation of the five-star hotel.

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