International Journal of Economics, Business and Accounting Research (IJEBAR)
Peer Reviewed – International Journal
Vol-6, Issue-3, 2022 (IJEBAR)
E-ISSN: 2614-1280 P-ISSN 2622-4771
https://jurnal.stie-aas.ac.id/index.php/IJEBAR

AN ANALYSIS OF IMPLEMENTATION OF FOOD SAFETY MANAGEMENT ISO 22000:2005 AT PT AERO PRIMA FOOD SERVICE SURAKARTA

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Abstract: The purpose of this study was to determine the effect of implementing SMKP ISO 22000:2005 on Organizational Performance at PT. Aero Prima Food Services. Organizational Performance is measured by the implementation of the Basic Eligibility Requirements Program, HACCP principles, and Interactive Communication. The research data uses primary data by distributing questionnaires to correspondents, namely employees of PT. Aero Prima Food Services. The data collection technique uses the Purpose Sampling technique. The independent variables of this study are the Basic Eligibility Requirements Program, HACCP Principles, and Interactive Communication, while the dependent variable is Organizational Performance. The data analysis method used in this research is Descriptive Statistics, Validity Test, and Reliability Test. For the hypothesis analysis method using Multiple Linear Regression Analysis, namely the Partial Test (t test), Simultaneous Test (F test) and Coefficient of Determination (Adjusted R Square). The results showed that the Basic Feasibility Requirements Program (PPD) had a significant effect on Organizational Performance of 0.000, smaller than the significance level of 0.05 (0.000 < 0.05), the HACCP Principle had a significant effect on Organizational Performance of 0.000, which was smaller than the significance level, namely 0.05 (0.000<0.05), and Interactive Communication has a significant effect on Organizational Performance of 0.002 which is smaller than the 0.05 significance level (0.002<0.05). Simultaneously all independent variables, namely the Basic Feasibility Requirements Program (PPD), HACCP Principles, and Interactive Communications have a significant effect of 0.000, which is smaller than the significance level of 0.05 (0.000 < 0.05). The value of Adjusted R square is 0.766, indicating that 76.6% of the variance in Organizational Performance can be explained by the independent variables, namely the Basic Eligibility Requirements Program, HACCP Principles, and Interactive Communication . While the remaining 23.4% is explained by other reasons outside the model.

Keywords: *Basic Eligibility Requirements Program (PPD), HACCP Principles, Interactive Communication, Organizational Performance*

1. Introduction

The rise of food poisoning cases in the world indicates a lack of awareness and knowledge about food safety for most companies engaged in the food sector. The impact of food

poisoning does not only affect consumers but also to the good name or image and business continuity of the company. In European and American countries, this problem is anticipated by publishing a method to carry out a risk analysis of the hazards caused by food in the process of its preparation . The method is called HACCP (Hazard Analysis & Critical Control Points).

HACCP (Hazard Analysis & Critical Control Points) guarantees in terms of safety while ISO 9001 focuses more on ensuring product quality. By applying HACCP and ISO 9001 quality management system produces a more effective system than just using HACCP and ISO 9001 alone. It also aims to increase customer satisfaction and improve the effectiveness of the organization . Based on this need, the international community agreed to publish a new system. ISO 22000:2005 is an update of the ISO 9000:9001 standard and combines the ISO 9000:9001 standard with the HACCP concept into one standard (Anymous, 2016). ISO 22000 is an international standard that combines and complements the main elements of ISO 9001 and HACCP in terms of providing an effective framework for the development, implementation and continuous improvement of a Food Safety Management System. With the ISO SMKP 22000:2005, it is hoped that many companies will be able to improve their organizational performance.

2. Literature Review

Basic Requirements Program (PPD)

Program to implement the requirements required by the food industry to create basic conditions and activities that can ensure a safe environment for production to produce food products. The scope of this program is a combination of requirements contained in Good Manufacturing Practices (GMP) and Sanitation Standard Operating Procedures (SSOP). This program must be run first because it is a basic condition of a food safety management system whether HACCP or ISO 22000:2005 can be applied. Pre -requisite is an aspect that must be met so that the implementation of the HACCP system in the food industry can run properly and effectively.

The basic feasibility program serves to underlie environmental conditions and the implementation of tasks and other activities in a factory or food industry that are indispensable to ensure that a safe production process has been implemented to produce food products of the expected quality (Winarno and Surono 2004).

Sanitation Standard Operating Procedures (SSOP) . Sanitation Standard Operating Procedure (SSOP) is a standard operating procedure for sanitation required by a food industry in developing and implementing sanitation control procedures, monitoring sanitation, and maintaining sanitation conditions and practices .

Good Manufacturing Practices (GMP)

Good Manufacturing Practices (GMP) or Good Food Production Methods (CPMB) is a guideline on how to produce food with the aim that producers meet predetermined requirements to produce quality food products in accordance with consumer demands. The purpose of the need for the application of the GMP system is to protect consumers from food production which aims to obtain food that meets quality food safety requirements in accordance with the GMP rules (Kurnia Fitria Nanda, 2015). By implementing GMP, it is hoped that the resulting food products will be safe for consumption, protected from contamination, and of good quality.

The application of GMP can start from the procurement of raw materials to reduce hazards that may arise at later stages in a food production chain. This initial handling can be done by

selecting suitable and good materials for a production process. The next step in implementing GMP is to design a hygienic production site with the right location and adequate facilities that can reduce the potential for contamination of the product and provide effective protection against the entry and nesting of pests in the factory. In addition, equip the production site with public facilities (eg lighting, ventilation, etc.) and proper and adequate sanitation facilities.

Equipment in product processing must also meet the requirements that are not easy to rust, easy to clean, and equipped with instructions for use to be safe when used. This production equipment must also be maintained and cared for both in terms of cleanliness and functionality by means of regular cleaning and maintenance to prevent food contamination . In applying GMP, pests in the production area must also be controlled so as not to contaminate the products produced. This pest control can be done both physically (eg the use of traps) and chemical, which then must be monitored closely so that this pest control runs properly.

Other supporting programs of GMP are personnel sanitation and waste management . Personnel sanitation is very important considering that workers directly interact with the food products produced and are very vulnerable to food contamination. Important procedures related to personnel sanitation include washing hands before and after handling products; use clothes and equipment that are always clean; not participating in production activities when sick; abandon bad habits such as smoking, spitting, chewing, eating, sneezing, wearing jewelry and watches that pose a serious risk to food safety; and the importance of medical examination.

HACCP Principle (Hazard Analysis Critical Control points)

HACCP (Hazard Analysis Critical Control Point) is a tool that is used to assess the level of danger, predict risk estimates and determine the right size in supervision with an emphasis on prevention and control of the final process testing process which is usually done by traditional supervision. Hazard Analysis is an analysis of the hazard or the possibility of an unacceptable risk of harm. The danger here is that all aspects of the food production chain are unacceptable because they are the cause of food safety problems.

Critical control A critical control point (CCP) is a step at which control can be applied and is necessary to prevent or eliminate a hazard or reduce it to a safe point. Critical control points (CCPs) can be raw materials, practice sites , procedures or processing where controls can be applied to prevent or reduce hazards.

According to Suklan (1998) in Wildan Wibawa Perdana, ST., MT (2018) based on the basic principles, namely:

Carry out a hazard analysis

Hazard analysis is an act of systematic evaluation of specific foods and raw materials or ingredients to determine risk and is a procedure carried out to identify the hazards that exist in the product and the materials used. In conducting a hazard analysis, it is important to consider all possible hazards in raw materials, auxiliary materials, each stage of the process, product storage and distribution, final preparation and use by consumers.

Define critical control point (TCC)

Establishment of critical control points is the second principle of HACCP. Guidelines issued by the Codex define a critical control point as a stage at which controls can be applied and this is important to prevent antibiotic residues and chemical hazards or eliminate food safety hazards caused by pathogens, metals and parasites or reduce them to an acceptable

level. CCPs (Critical Control Points) can be raw materials, locations, practices , procedures, or processing where controls can be applied to reduce hazards.

Setting critical limits

The critical limit is the value that separates the acceptable value from the unacceptable value at each CCP. Critical control points (CCPs) can be raw materials, locations, processing stages, work practices or procedures, but must be specific.

Establish monitoring procedures and corrective actions

In the HACCP system, monitoring or monitoring is defined as checking that a processing and handling procedure at the CCP can be controlled or scheduled testing and observation of the effectiveness of the process to control the CCP and its critical limits in ensuring product safety.

Establish verification procedures

To convince consumers and truly provide safety to consumers, it is necessary to carry out verifications such as inspections, the use of classical microbiological and chemical methods in testing pollution in the final product to ensure the results of monitoring and reviewing consumer complaints.

Establish record keeping procedures and documentation procedures.

Data storage is an important part of HACCP. Data storage can **ensure** that the information collected during the installation, modification, and operation of the system will be available to anyone involved in the process, as well as from outsiders (auditors). Data storage helps ensure that the system remains sustainable in the long term.

Interactive communication

In this standard, communication becomes one of the important things. As stated in this standard concerning communication, organizations must regulate and maintain effective communication both external and internal communications. This allows for good communication between the organization with suppliers, contractors, customers or consumers and other parties. With good interactive communication from various parties, it is expected to be able to support the implementation of a more effective and good system (SNI ISO 22000: 2009).

Communication throughout the food chain is critical to ensuring that all relevant food safety hazards are identified and adequately controlled at each stage of the food chain. This implies the need for communication between upstream and downstream organizations in the food chain. Communication with customers and suppliers about specific hazards and their control measures will help clarify customer and supplier requirements (for example those relating to the feasibility and necessity of requirements and their impact on the final product).

Company performance

Company performance is the result of work that can be achieved by a person or group of people in a company in accordance with their respective authorities and responsibilities in an effort to achieve company goals legally, and not violating the law, and not contradicting morals and ethics.

Performance measurement is one of the most important factors for companies because it is an effort to map strategies into actions to achieve certain targets (Giri, 1998 in Dewi, 2015). The performance measurement system can be used as an organizational control tool, because performance measurement is strengthened by setting rewards and punishments tsystem (Ulum, 2009 in Dewi, 2015).

ISO 22000 SMKP : 2005

Food safety management systems based on ISO 22000:2005 can help organizations to reduce risks associated with food and beverages. These management systems also not only take into account the basic rules of food preparation and acceptable workplace practices , but also include plans that allow for errors in processing to allow for product recalls.

All these types of practices form the basis of a food safety management system . This standard covers key elements to establish food safety, where one of the key The element is HACCP which is designed to be used in all segments of the food industry from planting, harvesting, processing, manufacturing, distributing and selling to preparing food for consumption.

Prerequisite programs such as currently implemented GMP (current Good Manufacturing Practices) is an essential foundation for the successful development and implementation of a HACCP plan. Food safety systems based on HACCP have been implemented successfully in food processing plants, grocery stores and food service operations. ISO 22000:2005 is recognized throughout the food supply chain and certification is one way to make ourselves the supplier of choice. ISO 22000:2005 certification generally shows the company's commitment to food safety.

3. Research Method

The population of this study were employees of PT. AERO PRIMA FOOD SERVICE Surakarta branch totaling 70 people while the sample in this study were workers from 9 departments of PT. Aero Prima Food Services that meets the following criteria:

a. Employees of PT. Aero Prima Food service from the HRD, Quality . department Control , Store, Production, Meal Prepare , Operation , Housekeeping .
b. Employees of PT. Aero Prima Food service who has attended training / briefing regarding SMKP ISO 22000: 2005.
c. Old employee who has worked for more than 2 years since SMKP ISO

Researchers using primary data can collect data as desired. The primary data used in this study is the distribution of questionnaires to respondents, namely employees of PT. AERO PRIMA FOOD SERVICE from 9 Departments. In this study, we visited the company where the research was conducted with the intention of collecting data by observation, interviews, and distributing questionnaires.

The variables in this study consisted of the independent variable (X) and the dependent variable (Y). The independent variables in this study are the Basic Feasibility Requirements Program (PPD) (X_1), and the HACCP Principle (X_2). While the dependent variable in this study is Organizational Performance (Y).

The data generated from the measurement of customer satisfaction and employee satisfaction (with a questionnaire) will be analyzed with a " Likert Scale ". According to Sugiyono, what is meant by the Likert Scale is a scale used to measure attitudes, opinions, and perceptions of a person or group of people about social phenomena (2017: 93). In research, this social phenomenon has been specifically defined by researchers, hereinafter referred to as research variables.

4. Result and Discussion

Descriptive Statistics Test Results

Descriptive statistics are used to describe data that shows the results of the measurement of the mean, standard deviation, and the maximum at that value (Ghozali, 2011). From

primary data collection regarding the effect of implementing SMKP ISO 22000: 2005 on organizational performance in PT . AeroPrime Food Service.

Table 4.1
Respondent Sample Profile

Characteristics	Amount	Percentage
Gender :		
Man	29	83%
Woman	6	17%
Age :		
20-30 years old	19	54%
31-40 years old	12	34%
41-50 years old	4	11%
Position:		
Supervisor	9	26%
Staff	26	74%
Last education		
SMA / SMK	23	66%
SMK	3	9%
D3	6	17%
S1	3	9%

From the data above, it is known that the male sample is 83% larger than the female sample, which is 17%. The age of the sample is mostly at the age of 20-30 years by 54%, while for the age of 31-40 years by 34%, and for the age of 41-50 by 11%. The distribution of sample positions is according to the composition of positions and targets, namely supervisors by 26% and staff by 74%. The highest education sample is SMA by 66%, SMK by 9%, D3 by 17%, and S1 by 9%. Judging from the respondent's profile, the author considers that most of the respondents are quite emotionally mature because their age range is 20-50 years, while judging from their education, respondents are knowledgeable enough to understand well the statements in the questionnaire.

Validity Test Results

Validity test is a measure that shows that the measured variable is really the variable to be investigated by the researcher (Cooper and Schindler , 2006). This validity test is carried out with the aim of seeing the extent to which the accuracy of the measuring instrument measures what you want to measure. In this study, the validity of the answers of 35 respondents was tested with 5 variables being measured. The value of r table is calculated with the provisions of = 5% (0.05) with DF = N-2, namely DF = 35-2 = 33 so that the value of r table is 0.344. According to Junaedi (2014), the provisions on the validity test, if the value of r count > r table then the data is declared valid. Meanwhile, if r count < r table then the data is declared invalid.

Variable Basic Requirements Program (PPD)

The results of testing the Basic Requirements Program (PPD) variables are as follows:

Table 4.2
PPD Validity Test Results

Item Statement	r count	r table	Results
1	0.724**	0.344	Valid
2	0.645**	0.344	Valid
3	0.729**	0.344	Valid
4	0.794**	0.344	Valid
5	0.816**	0.344	Valid
6	0.727**	0.344	Valid
7	0.705**	0.344	Valid
8	0.786**	0.344	Valid
9	0.798**	0.344	Valid
10	0.751**	0.344	Valid
11	0.775**	0.344	Valid
12	0.705**	0.344	Valid
13	0.682**	0.344	Valid

Source: Data processed with SPSS version 25, 2019

The value of r table for the sample with a significance level of 0.005 is 0.344. Table 4.2 shows that all statements of the Basic Requirements Program variable (X1) are valid. This is because all statement items have a calculated r value (0.682 – 0.816) which is greater than the r table value (0.344). Thus the 13 item statements of the Basic Requirements Program (PPD) variable are declared valid and can be included in further research.

HACCP Principle

The results of testing the HACCP Principle variable are as follows:

Table 4.3
HACCP Principle Validity Test Results

Item Statement	r count	r table	Results
2	0.381*	0.344	Valid
Source: Data processed with SPSS version 25, 2019			

The value of r table for the sample with a significance level of 0.005 is 0.344. Table 4.3 shows that the statement items for the HACCP Principle variable (X2) are valid. This is because the statement item has a calculated r value (0.381) which is greater than the r table value (0.344). Thus, the statement item on the HACCP Principle variable is declared valid and can be included in further research.

Interactive Communication

Communication Variable test are as follows:

Table 4.4
Interactive Communication Validity Test Results

Item Statement	r count	r table	Results
1	0.357*	0.344	Valid

2	0.396*	0.344	Valid
7	0.520**	0.344	Valid
8	0.499**	0.344	Valid
Source: Data processed with SPSS version 25, 2019			

The value of r table for the sample with a significance level of 0.005 is 0.344. Table 4.4 shows that the statement items for the Interactive Communication variable (X3) are valid. This is because the statement item has a calculated r value (0.357-0.520) which is greater than the r table value (0.344). Thus the item statement of the Interactive Communication variable is declared valid and can be included in further research.

Organizational Performance

The results of testing the Organizational Performance Variables are as follows:

Table 4.5
Organizational Performance Validity Test Results

Statement Items	r count	r table	Results
1	0.594**	0.344	Valid
2	0.634**	0.344	Valid
3	0.446**	0.344	Valid
4	0.432**	0.344	Valid
6	0.455**	0.344	Valid
7	0.449**	0.344	Valid
Source: Data processed with SPSS version 25, 2019			

The value of r table for the sample with a significance level of 0.005 is 0.344. Table 4.7 shows that the statement item on the Organizational Performance variable (Y) is valid. This is because all statement items have a calculated r value (0.432 – 0.634) which is greater than the r table value (0.344). Thus, the statement item on the Organizational Performance variable is valid and can be included in further research

Reliability Test Results

Reliability test is a tool to measure a questionnaire which is an indicator of a change or construct (Ghozali, 2009). The reliability test in this study was carried out by calculating Cronbach's alpha of each instrument provided that if Cronbach's alpha 0.6 then declared reliable (Arikunto, 1998).

Table 4.6
Data Reliability Test Results for Independent Variables and Dependent Variables

Code Variable	Name Variable	Limitation	Score Cronbach'Alpha	Information Reliability
Variable SMKP ISO				
X_1	Program Basic Eligibility Requirements	0.6 – 0.9	0.935	Tall
X_2	Principle HACCP	0.6 - 0.9	0.937	Tall

X_3	Communication Interactive	0.6 - 0.9	0.934	Tall
Dependent variable				
Y	Performance Organization	0.6 - 0.9	0.933	Tall

Source: Data processed with SPSS Version 25, 2019

From the results of these tests , it can be concluded that the research indicator items used are reliable and can be trusted for their consistency.

Hypothesis Testing Results

Multiple Linear Regression Analysis

The test results of the multiple linear regression equation model are used to determine the effect between the independent variable and the dependent variable whether each independent variable has a positive or negative effect on the dependent variable. The results of the multiple regression equation model test are presented in the table below :

Table 4.7
Multiple Linear Regression Analysis Results

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig .
	B	Std . Error	Beta		
Constant	-3,018	3,995		-0.755	0.456
PPD	0.164	0.042	0.366	3,923	0.000
HACCP Principle	0.493	0.113	0.421	4,343	0.000
Communication Interactive	0.308	0.088	0.374	3,492	0.002

Source: Data processed with SPSS Version 25, 2019

Based on the results of multiple linear regression analysis, the effect of implementing the ISO 22,000:2005 Management System on Organizational Performance at PT. Aero Prima Food Services Surakarta can be expressed by a multiple regression equation model, namely:

$$Y = - 3.018 + 0.164 X1 + 0.493 X2 + 0.308 X3$$

Then the equation can be interpreted:

The constant of -3.018 indicates that if the PPD, HACCP, and Interactive Communication variables are worth 0, then the magnitude of the Organizational Performance variable is constant (-3.018) . The Basic Requirements Program Regression Coefficient (PPD) of 0.164 indicates that the Basic Requirements Program has a positive regression coefficient direction, which means that for every 1 point increase , the Basic Requirements Program increases by 0.164 points.

The HACCP coefficient of 0.493 indicates that the HACCP Principle has a positive regression coefficient direction, which means that for every 1 point increase , the HACCP Principle increases 0.493 points . Interactive Communication coefficient of 0.308 indicates that Interactive Communication has a positive regression coefficient direction, which means that for every 1 point increase , the Basic Requirements Program increases 0.308 points.

t test

The t-test is used to partially test the effect of the independent variable on the dependent variable, namely the influence of each independent variable consisting of the Basic Eligibility Requirements Program (X1), HACCP Principles (X2), and Interactive Communication (X3) on Organizational Performance which is a the dependent variable. In the study using the t test, compared with the 95% confidence level or = 0.05

F test

Table 4.9
Summary of F . Test Analysis Results

Research Model	F count	F table	p value	Conclusion
Organizational Performance (Y)	28.858	2.69	0.000	Significant

Source: Data processed with SPSS Version 25, 2019

From the table above, it is obtained that the f-count is 28.858 with a significance of 0.000 and the value of the f table is 2.69. Because the f-count value is greater than the f table value and the significance value is smaller than = 0.05, this regression model can be used to explain that the independent variables, namely the basic eligibility requirements program, HACCP principles, and interactive communication affect the dependent variable. namely on Organizational Performance which means Ha accepts and Ho is rejected, so that Hypothesis 4 is accepted, namely the basic eligibility requirements program, HACCP principles, and interactive communication simultaneously affect organizational performance.

Coefficient of Determination (R^2)

Table 4.10
Coefficient of determination Adjusted R Square

Model Summary				
Model	R	R Square	Adjusted R Square	Std . Error of the Estimate
	0.891a			

Source: Data processed with SPSS Version 25, 2019

In the table it is explained that the coefficient of determination shown from the Adjusted R square value is 0.766, this means that 76.6% of the Organizational Performance variance can be explained by the independent variables, namely the Basic Eligibility Requirements Program, HACCP Principles, and Interactive Communication . While the remaining 23.4% is explained by other variables outside the model. Based on the results of data analysis in this study, it can be obtained that there is a significant effect of the Basic Eligibility Requirements Program, HACCP Principles, Interactive Communication partially. Meanwhile, for the simultaneous testing of the four independent variables, they have an effect on the dependent variable.

5. Conclusion

This study analyzes the effect of implementing the Food Safety Management System (SMKP) ISO 22000:2005 on Organizational Performance. So at the end the author draws the

following conclusions: The Basic Eligibility Requirements Program (PPD) partially has a significant positive effect on Organizational Performance of 0.000 is smaller than the significance level of 0.05 (0.000 < 0.05) . The HACCP principle partially has a significant positive effect on Organizational Performance of 0.000, which is smaller than the significance level of 0.05 (0.000 < 0.05).

Interactive Communication partially has a significant effect on Organizational Performance of 0.002, smaller than the significance level of 0.05 (0.002 < 0.005). Simultaneously the independent variables, namely the Basic Eligibility Requirements Program, HACCP Principles, and Interactive Communications have a significant effect on performance by 0.000, which is smaller than the significance level (0.000 <0.05) Basic Requirements Program (PPD), HACCP Principles, and Interactive Communication affect Organizational Performance by 76.6%.

References

Point (HACCP) pada Usaha Jasa Boga di Kecamatan Kota Gede. Yogyakarta.

Budayani, Niken Wahyu. 2011. Pengaruh Penerapan SMM ISO 9001 : 2008 Terhadap Kinerja Organisasi PT. CG Power Sistem Indonesia. Skripsi Institut Pertanian Bogor.

Dewi, Dewa Ayu Puthu Meitha Chandra, I Wayan Widia, dan I Gusti NGR Apriadi Aviantara. 2017. Pengaeruh Sistem Manajemen Keamanan Pangan ISO 22000 : 2005 Terhadap Kinerja Perusahaan. Jurnal Beta Vol.5. No.1..

Farida Ratna Dewi, Arizca Kusuma Wardhani. 2015. Analisis Struktur Modal terhadap Kinerja Keuangan Perusahaan Sektor Utama yang terdaftar di Indeks LQ45 Bursa Efek Indonesia. Jurnal Manajemen dan Organisasi.

Fatyasin, Muhammad Lutfi Nur. 2018. Analisis Kinerja Perusahaan dengan Konsep Balanced Score Card (Study kasus pada PT PARAMA). Skripsi STIE AAS Surakarta

Ghozali, Imam.2018. Aplikasi Analisis Multivariate dengan Program IBM SPSS 25. Badan Penerbit Universitas Dionegoro : Semarang.

Sugiyono. 2017. Metode Pendekatan Kuantitatif, Kualitatif dan R&D. Bandung Alfabeta.

Winarno, F.G dan Surono.2004. GMP Cara Pengelolaan Pangan yang Baik. M- Brio Press. Bogor

Zulkarnain, Joni. 2011. Pengaruh Sistem Manajemen Mutu ISO Terhadap Kinerja Karyawan Melalui Budaya Kualitatif Perusahaan. (Studi Kasus PT. Otsuka Indonesia Malang).