An Integrated Project Design for Improving the Performance of Small and Medium Enterprise: A Case Study for SME Mushroom

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Abstract

In this case study, we discussed the Small and medium-sized enterprise (SME) mushroom that has problems about financial as well as technical problems. In financial aspects, the SME does not have correct financial records to determine a selling price. In technical problems, it faced the absence of product certification as proven a product fulfill a standard that required by the market. This situation made SME's performance not good, even though these products are needed by the market. This study aims to improve the SME in technical and non-technical aspects. We use SIMILAR (state the problem; investigate alternatives; model the system; integrated; and re-evaluate) approaches to develop an integrated project design. We investigated that in practice, there are still many SMEs that have not kept their accounting books and reports properly. The implementation of accounting bookkeeping to provide informative financial reports is still difficult for SMEs. SMEs products that have a guarantee will have a higher selling value than similar products that do not have certification. SMEs need to meet good food production methods for Home Industry (*Industri Rumah Tangga*/IRT), halal standards and meet food safety aspects. Therefore, it is measured on the object of study which refers to the IRT standard. Measurements are made to measure the incompatibility of the IRT that occurs, then corrections are made based on the mismatch and maintain food safety in the production process. Several alternative solutions that are implemented will provide SMEs results that are by the technical standards of oyster mushrooms' house, and are entitled to apply for Good Food Production Method for Home Industry CPPB-IRT) and SAK EMKM certifications.

Keywords
SME's, strategic planning, financial, certification.

1. Introduction
The economic crisis that once hit Indonesia caused the national economy to collapse. Large-scale business entities in various sectors such as industry, trade, and services experienced financial stagnation and many collapsed. Different conditions experienced by Micro, Small, and Medium Enterprises (MSMEs) were able to survive and become

economic recovery during the monetary crisis in 1998. The Smal Medium Enterprises (SMEs) activities are one of the business fields that can create productive and labor-intensive jobs. Labor intensive is a development activity that uses more human power than machine power. So that activities do not require certain requirements such as education level, expertise, skills, simple technology, and relatively small capital. SME has a strategic role in national economic development, the SME sector has a good impact on the independence of a nation to be able to create its jobs so that it can reduce the unemployment rate in Indonesia.

However, in practice, there are still many SMEs that have not kept their accounting books and reports well. The implementation of accounting bookkeeping to provide informative financial reports is still difficult for SMEs. Products produced by SMEs will have good competitiveness and can adapt to the market. Competitiveness indicators are related to the quality assurance of the products produced. In Indonesia, many SME products are difficult to compete with because they have not gone through the SNI certification process. It is recorded that the number of SMEs products produced in Indonesia is 55 million, but only about 20% of them have SNI certification. Furthermore, preparations and fulfillment of requirements related to the standards and quality of products that have been set by the market are carried out. SMEs need to meet standards for good food production methods for Home Industry (IRT).

Several main problems hinder the development of MSME business, these problems are divided into two types of problems, namely technical problems, and non-technical problems. Technical problems in the form of backlogs rotten easily, poor quality of raw materials, absence of SOPs, production results are often found in the form of defects, unskilled workers, and an environment that is not ideal. Meanwhile, for non-technical problems in the form of not knowing the cost of goods sold, no production documents, not knowing the overall production costs, poor financial administration records, and not knowing the overall profit earned by SMEs.

The purpose of this research is to show the important role of SMEs in the Indonesian economy. Therefore, SMEs must implement strategic planning to solve problems that are often experienced by SME owners, especially in Aneka Jamur Karanganyar SME which is the object of this case study. Aneka Jamur Karanganyar SMEs are SMEs that produce an Oyster Mushroom as their main activities and sell Raw Oyster Mushroom (shown in Figure 1) and Baglog's mushroom or 'Baglog' (shown in Figure 2) as their main products. Due to limited capital and knowledge, SMEs often find it difficult to face technical and non-technical problems. The problem that is often faced is financial problems in which SMEs do not have correct financial records. Another problem that is often faced is that in the absence of certification, the use of certification is proven to make products sold to market acceptance.

2. Literature Review

Indonesia has Law Number 8 of 1999 concerning Buyer Security. The Customer Protection Act includes all efforts that ensure legal certainty to protect consumers (Indonesia 1999). Therefore, every trade, whether large-scale households or large businesses in Indonesia must secure and prepare quality goods. From this law, the government made a rule for Good Manufacturing Practices (GMP), one of the rules is Good Food Production Methods for Household Industries (Good Food Production Method for Home Industry/CPPB-IRT) (Marwati et al. 2019). Nourishment security dangers can happen in any setting within the filling chain, besides palatable control measures are fundamental to preserve the product for minimizing nourishment security risks. Assessment of the ultimate product does not ensure that a product is secure and has great quality. It requires a nourishment security administration framework that analyzes the risks from crude materials to ready-to-eat last items.

SPP-IRT is a written guarantee given by the Regent / Mayor c.q. District / City Government (Pemda) for Home Industry (IRT) food in their working area that has met the requirements for providing SPP-IRT in the context of distributing home industry food (IRT food). IRT food itself has processed food produced by IRT which is circulated in retail packaging and labeled. This certification aims to increase the competitiveness of home industries and consumer confidence in the food produced as well as to raise awareness and motivation of consumers and employees about the importance of hygienic food processing and responsibility for consumer safety (Regulation of the Head of the Food and Drug Supervisory Agency (BPOM) Number HK. 03.1.23.04.12.2206 concerning Good Food Production Practices for Domestic 2012).

The cost of goods manufactured (COGS) is the total production cost of goods that have been completed and transferred to finished goods inventories for a month (Raiborn and Kinney 2011). According to Maghfirah and BZ (2016), COGS is a collection of costs incurred and processed that occurs in the manufacturing process or producing an item, which consists of direct raw materials, direct labor, and factory overhead costs. Besides, Samsul (2013) states that the cost

of goods manufactured is all costs, either directly or indirectly, incurred to produce goods or services which are the company's main operations in a certain period. There are various methods to determine COGS including the full costing method and the ABC method. Hongren in Suratinoyo (2013) defines ABC as an approach to calculating costs based on existing activities in the company. Meanwhile, Hansen and Mowen quoted by Hatta (2017) define ABC as a system that first tracks cost on activities/activities, then on products. According to Lasena (2013), full costing is a method of determining the cost of goods manufactured which takes into account all elements of production costs into the cost of production, which consists of raw material costs, direct labor costs, and factory overhead costs, both those with variable and fixed behavior, with this, the cost of production according to full costing consists of elements of production costs.

There are different frameworks to assess industry performance. Yuniaristanto et al. (2020) measure an industry supply chain performance using the SCOR model with the following steps: (i) identifying supply chain performance metrics, (ii) validating metric level 1 as KPI, (iii) performance measurements using metrics level 1 and level 2 and (iv) normalization using Snorm de Boer formula. Meanwhile, Saputri et al. (2019) assessed using the Adjusted Profit (AP) indicator with Total Price Recovery (TPR) and Total Factor Productivity (TFP) using the Data Envelopment Analysis (DEA) method. Indrasari et al. (2020) presented a dynamic relationship between the implementation of HAS and the performance of food manufacturing SMEs, this relationship is modeled through the Causal Loop Diagram (CLD) based on a literature review. Giyanti et al. (2020) conducted a study to prioritize factors that are important for the success of halal food standard practices in small and medium enterprises (SMEs) in food manufacturing. Hanif et al. (2020) know and analyze the efficiency that occurs in Pertamina Boyolali TBBM operations and determines the variables that most influence supply chain performance to be analyzed and improved so that supply chain performance improvements can be more targeted and optimal. Giyanti et al. (2020) conducted a study to develop a model for measuring the readiness of halal practice of food producers for MSME with a measurement model based on 11 criteria of HAS 23000. The success of implementing halal standards depends on the ability of SMEs to turn external pressures into internal motivation (Giyanti et al. 2020).

SAK EMKM ('*Standar Akuntansi Keuangan Entitas Mikro Kecil dan Menengah'*/SAK EMKM) is a simpler financial accounting standard than SAK ETAP, because it regulates transactions commonly carried out by SMEs, namely based on measurement using historical costs so that it is sufficient to record assets and liabilities at cost (SAK EMKM 2016). In SAK EMKM, it is stated that the preparation of SME financial statements includes at least a statement of financial position, an income statement, and notes to financial statements.

Oyster mushrooms' house serves to protect the fungus from direct exposure to sunlight which can damage the body of the fungus. In addition to protecting, oyster mushrooms' house serves to maintain humidity and temperature in the environment where oyster mushrooms live. To maintain the humidity and temperature of mushrooms, farmers conventionally pour water using a hand sprayer in the morning and evening. (Karsid et al. 2015).

Fungal growth is influenced by several environmental factors, so the problems related to the environment must be managed properly. Cultivation of mushrooms, especially oyster mushrooms, requires an environment with suitable conditions, both temperature (temperature, humidity, light, and water content). The closer to natural environmental conditions, the growth of oyster mushrooms will be good (Soenanto 2000). Therefore, it is necessary to regulate the environment that is appropriate for optimal fungal growth, by establishing environmental standards for the oyster mushrooms' house.

Figure 1. Oyster Mushroom in SME Aneka Jamur Karanganyar

Figure 2. Oyster Mushroom House.

3. Methods

The method used in solving this problem is called SIMILAR. SIMILAR is an acronym for State the problem, Investigate alternatives, Model the system, Integrate, Launch the system, Assess performance, and lastly is Re-evaluate by considering the needs of stakeholder problems. At the State, the problem stage, a description of the system objectives or existing conditions is carried out. One of the formulations of the problem is to determine who and where this solution will be tested and used. Investigate an alternative is to design an alternative design using certain criteria such as performance, cost, completion time, and risk. Integrate, which is to unite the elements in the sub-system that interact with each other so that all of them can contribute to achieving the intended goals and provide positive value to stakeholders. The next step is to Launch the system, namely the application of the system to the actual or operational environment. When the system has been applied, it is followed by Assess Performance, which is to see the risk of the design designed by measuring it based on the trade-off criteria offered. The last step, namely Re-evaluate is carried out as feedback to improve performance to avoid errors in the process stage. This research is limited to the launch of the system and assesses the performance stage because the proposal has not been implemented directly on the object of study.

The problem discussed in this research is determining alternative solutions to problems faced by SMEs. One of the problems faced by SMEs is financial problems. To solve this problem, this research was conducted using a comparative method, namely by comparing the number of costs according to SMEs and according to the theory based on the production cost reports of Aneka Jamur Karanganyar SME. The methods and analysis used in this research are fishbone diagram and 5W + 1H. The data source used is primary data, namely data obtained directly from the object to be studied. In collecting data, observations were made, namely making visits or direct observations on objects.

Some problems that occur in SMEs can be visualized using a fishbone diagram. The problems found were SMEs not operating optimally. The causes were analyzed using a fishbone diagram. The Fishbone Diagram is an illustration used to explore potential or real causes of quality problems. Figure 3 below is a fishbone diagram explaining Aneka Jamur Karanganyar SME's problems.

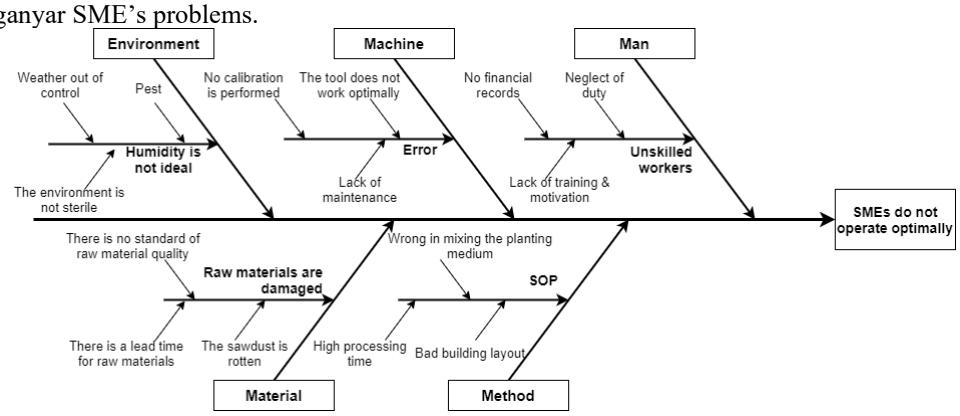

Figure 3. Fishbone Diagram on SME Problems

4. Data Collection

Data collection at the SIMILAR stage includes the State The Problem stage, which defines the parties involved such as end-users, operators, suppliers, owners, customers, regulatory agencies, etc. At this stage, data collection is carried

out in the form of the number of production, type of product, production process flow, number of workers, environmental conditions of mushrooms, financial historical data, and activities at SMEs. Apart from these data, at this stage, it also produces a description of the problems that occur in SMEs. The current condition of employees in determining the humidity, temperature, and light intensity factors in the house of oyster mushrooms still use subjective methods, there is no use of this tool. which may result in the employee's incorrectly estimated temperature and humidity (where the temperature and humidity can be more or less than specified). The following Figure 4 are some of the problems encountered that triggered the performance of SMEs to be suboptimal. Some data that are also collected include financial data to help calculate the COGS of baglog and raw oyster mushroom that the SME's sell, those data are SMEs earnings that show in Table 1, direct material costs in Table 2, the overhead cost in Table 3, and the direct labor cost in Table 4.

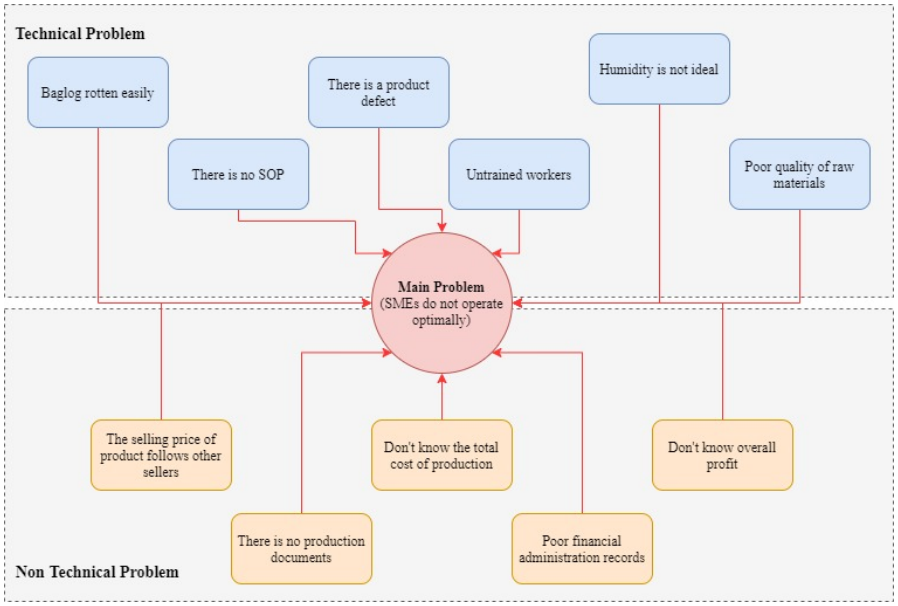

Figure 4. Problem on SME

Table 1. SMEs Earning in September 2020

No	Variety of Products	Total products	Unit	Selling price
1	Baglog	9.000	pcs	1800
2	Raw Mushrooms	60.000	ounce	10000

Table 2. Direct Material Cost of Aneka Jamur Karanganyar

Product	Materials	Amount	Unit	Unit cost	Total Cost
Baglog	Sawdust	154	kg	Rp650,000	Rp650.000
	'Bekatul'	125	kg	Rp3,500	Rp437.500
	Gypsum	1	pack	Rp40,000	Rp40.000
	Dolomite	1	pack	Rp10,000	Rp10.000
	Ring	2500	pcs	Rp65	Rp162.500
	Cover	2500	pcs	Rp150	Rp375.000
	Plastic	17	kg	Rp30,000	Rp510.000
	Cotton	10	kg	Rp80,000	Rp800.000
	Firewood	154	kg	Rp650,000	Rp650.000
	Alcohol	1	liter	Rp75,000	Rp75.000
	Spritus	4	liter	Rp10,000	Rp40.000
	Mushroom Seeds	100	bottle	Rp3,500	Rp350.000

	TOTAL				Rp4.100.000
Raw Mushroom	Baglog	34000	unit	Rp 1.169	Rp39.737.752
	Water		liter	Rp 60.000	Rp60.000
	Insecticides	1	bottle	Rp 65.000	Rp65.000
	TOTAL				Rp39.862.752

Table 3. Overhead Cost of Aneka Jamur Karanganyar SME

Expenses Category	Cost
Depreciation Expense	Rp 371.317
Miscellaneous	Rp 360.000
Office Expense	Rp 200.000
Total Cost	Rp 931.317

Table 4. Direct Labor Cost of Aneka Jamur Karanganyar SME

Labor	Hours per bag	Rate	Total Cost
Worker 1	20	Rp30.000	Rp 600.000
Worker 2	4	Rp10.000	Rp 40.000
Worker 3	4	Rp10.000	Rp 40.000
Worker 4	24	Rp62.500	Rp1.500.000
Worker 5	8	Rp25.000	Rp 200.000
Worker 6	8	Rp25.000	Rp 200.000
Worker 7	8	Rp25.000	Rp 200.000
Worker 8	8	Rp25.000	Rp 200.000
Worker 9	8	Rp25.000	Rp 200.000
Worker 10	8	Rp25.000	Rp 200.000
Worker 11	8	Rp25.000	Rp 200.000
Worker 12	8	Rp25.000	Rp 200.000
Worker 13	20	Rp32.500	Rp 650.000
Worker 14	8	Rp25.000	Rp 200.000
Worker 15	20	Rp50.000	Rp1.000.000
TOTAL			Rp5.630.000

5. Result and Discussion

Results and Discussion include the Investigate Alternatives, Model The System, and Integrate stages at SIMILAR. The Investigate Alternatives stage describes alternatives that can be done to solve the problem, in which several alternatives include designing work of standard operating procedures (SOP), making Operation Process Chart (OPC), determining cost of goods sold (COGS), making financial transaction books, and implementing environmental standards. At the Model The System stage, a problem-solving system is drawn using the proposed alternatives. Meanwhile, at the Integrate stage, the proposed integration of technical and non-technical problem-solving alternatives in detail which are described in Numerical Results and Graphical Results are as follows.

5.1 Numerical Result

The numerical results that are processed in solving problems in SMEs are in the form of calculating COGS and making reports on the requirements for SAK EMKM certification. The COGS calculation is done to help SMEs set the selling price based on the costs incurred. Based on the calculation of COGS using the full costing method and ABC, the two methods were compared to determine the best method that could be applied to the Aneka Jamur Karanganyar SMEs. The following Table 5 is showing the result of the COGS calculation.

Table 5. COGS of Aneka Jamur Karanganyar SME

Type of Cost	Baglog		Oyster Mushroom	
	Full Costing	ABC	*Full Costing*	ABC
Material costs	Rp 455,56	Rp 455,56	Rp 664,38	Rp 663,94

Labor costs	Rp	625,56	Rp	625,56	Rp	16,67	Rp	16,67
Overheads costs/Unit	Rp	87,65	Rp	33,38	Rp	5,44	Rp	5,03
COGS/Unit	Rp	1.168,76	Rp	1.114,49	Rp	686,48	Rp	685,64
Selling price/Unit	Rp	1.800,00	Rp	10.000,00	Rp	18.000,00	Rp	10.000,00
Profit/Unit	Rp	631,24	Rp	8.885,51	Rp	17.313,52	Rp	9.314,36

Preparation of the SAK EMKM certification requirements report is carried out so that MSME financial administration records are more in order and following standards so that they can apply for SAK EMKM certification. Some of the reports made are the results of the SAK EMKM report which include the Income Statement in Figure 5, the Statement of Owner's Equity in Figure 6, and the Statement of Cash Flow in Figure 7.

ANEKA JAMUR KARANGANYAR INCOME STATEMENT For Month Ended September 2020		
Income		
Income from Raw Oyster Mushroom	Rp	2.070.000
Income from Baglog	Rp	1.710.000
Total Income	**Rp**	**3.780.000**
Net Sales		
Net Sales	Rp	29.820.000
GROSS PROFIT	**Rp**	**33.600.000**
Operating Expenses		
Wholesale salary expenses	Rp	289.375
Daily salary expenses	Rp	1.100.000
Credit expenses	Rp	200.000
Electrical expenses	Rp	300.000
Water expenses	Rp	60.000
Total Operating Expenses	**Rp**	**1.949.375**
OPERATING INCOME	**Rp**	**31.650.625**
Other Income and Expense		
Total other income and expense	**Rp**	**-**
NET INCOME	**Rp**	**31.650.625**

Figure 5. Income Statement

ANEKA JAMUR KARANGANYAR Statement of Owner's Equity For Month Ended September 2020		
Owner's Equity at September 1st, 2020	Rp	5.000.000
Net Income	Rp	31.650.625
Subtotal	Rp	36.650.625
Owner's Draw	Rp	-
Owner's Equity at September 30th, 2020	**Rp**	**36.650.625**

Figure 6. Statement of Owner's Equity

ANEKA JAMUR KARANGANYAR Statement of Cash Flows For Month Ended September 2020		
Net Income		**Rp 31.650.625**
Cash Flow from Operating Activities		
Cash received from customers	Rp 3.780.000	
Employee compensation	Rp 1.389.375	
Other operating expenses paid	Rp 4.100.000	
Net Cash provided by operating activities		**-Rp 1.709.375**
Cash Flow from Investing Activities		
Purchase of material	Rp 4.100.000	
Depreciations	Rp 371.317	
Net Cash provided by investing activites		**-Rp 4.471.317**
Cash Flow from Financing Activites		
Net Cash provided by financing activites		**Rp -**
Net Cash Increase for the month		**Rp 25.469.933**
Cash at the beginning of the month		**Rp 5.000.000**
Cash at the end of the month		**Rp 30.469.933**

Figure 7. Statement of Cash Flows

5.2 Graphical Result

The numerical results The graphic results made in solving problems at SMEs are in the form of making Work SOPs and OPCs. One important aspect in realizing good business management is by applying Standard Operating Procedures (SOP) to all processes that occur in the business. SOP is important because it is a guide or reference for carrying out work tasks under the function. SOP is also a performance appraisal tool for a section following work procedures, procedures, and work systems in the work unit concerned (Sailendra 2015). The Work SOPs made are the SOP of Maintaining The Environmental Requirements of Oyster Mushrooms in Figure 8, the SOP of Making Oyster Mushroom Baglog in Figure 9, and the SOP of Oyster Mushroom Harvesting in Figure 10.

The current conditions at Aneka Jamur Karanganyar SMEs do not have standard operating procedures, so standard operating procedures are needed so that Aneka Jamur Karanganyar SMEs employees can do a job properly and make it easier to evaluate the application of inconsistencies in the quality and quantity of a product (Rustriani et al. 2015). Making OPC is carried out to estimate machine requirements, raw material requirements, budgeting, and to improve the way the work is done at SMEs. The operation process map describes the operation and inspection steps experienced by materials or materials in their sequence from the start until they become whole or semi-finished goods and contain information needed for further analysis, such as time spent, the material used, and the place or tool or machine used (Nurhasanah and Simawang 2013). The OPCs made are the OPC of oyster mushrooms baglog in Figure 11 and the OPC of raw oyster mushrooms in Figure 12.

ANEKA JAMUR KARANG ANYAR

STANDARD OPERATING PROCEDURE
MAINTAINING THE ENVIRONMENTAL REQUIREMENTS OF OYSTER MUSHROOMS

A. Purpose
To explain how to maintain several environmental factors in order to be maintained

B. Basic Information
In order for optimal oyster mushroom growth, a room temperature of 16-22 Celsius and humidity between 60-70% is required. If the humidity and temperature are not enough, the plant substrate will dry out

C. Equipment and Materials
Thermometers (Hygrometers), Pump Sprayers, Rubber Gloves, Masks, Aprons

D. Personnel Qualifications
Employees who are assigned tasks

E. Implementation Procedures
1. Employees use the equipment provided
2. Employees check environmental conditions with the available equipment
3. If the condition of the temperature and humidity numbers are found to be less than the optimum number, do watering throughout the room so that the baglog indirectly becomes wet; spraying on the floor also needs to be done;
   watering is done every day (morning, afternoon, and evening).
4. If the conditions are found, the temperature and humidity numbers are more than the optimum it is necessary to open and close doors and windows (ventilation) house of oyster mushroom and to adjust the temperature and humidity to suit needs.
5. Employees check light intensity using a lux meter and then do the opening and closing of doors and windows (ventilation) to adjust the light intensity required; time done in the morning, afternoon, and evening.

Figure 8. SOP of Maintaining The Environmental Requirements of Oyster Mushrooms

ANEKA JAMUR KARANG ANYAR

STANDARD OPERATING PROCEDURE
MAKING OYSTER MUSHROOM BAGLOGS

A. Definition and Purpose
Baglog is a planting container where mushroom seeds are placed and can be interpreted as a cylindrical sawdust bag. The goal is to provide a growing medium for mushroom seeds.

B. Basic Information
The media that is inserted into the plate is in the form of wood powder so that when it is compacted it can be compact and resembles a wood texture (log).

C. Equipment and Materials
18x30cm plastic bags, plastic rings, bottles, cotton, rubber bands, rubber gloves, masks, aprons, wire sieves, sawdust, bran, chalk, gypsum, water, scales.

D. Personnel Qualifications
Employees who are assigned tasks

E. Implementation Procedures
1. Sieving is done by using a sieve to sieve large sawdust so that a fine and uniform sawdust is obtained.
2. Mixing sawdust with bran, chalk, and gypsum according to the proportions to get an even composition of the media, which aims to provide a sufficient source of nutrients for the growth and development of fungi.
3. Curing, the activity of piling up the sawdust mixture then covering it tightly with plastic for 1 night, with the aim of decomposing complex compounds with the help of microbes
4. Filling Media into Baglog, inserting the media mixture into polypropylene plastic (PP) with a certain density so that fungal mycelia can grow optimally and produce optimal yields.

F. Target
To create an ideal baglog (planting medium), so that it can support the growth of oyster mushrooms

Figure 9. SOP of Making Oyster Mushroom Baglog

ANEKA JAMUR KARANG ANYAR

STANDARD OPERATING PROCEDURE
OYSTER MUSHROOM PROCESS HARVEST

A. Definition and Objectives
Activity of picking the fruit bodies of oyster mushrooms that are old enough, that is 30 days since inculation or a week after the baglog is opened or 2-3 days after the emergence of primordia. The goal is to get the results of the oyster mushroom fruit bodies as desired.

B. Basic Information
1. The formation of mushroom fruit bodies begins after the emergence of primordia and the fruit bodies of the oyster mushrooms are ready to be picked at the age of 2-3 days before the edge of the mushroom fruit hood breaks.
2. The size of the oyster mushroom that consumers like is not too big (8 - 10 cm) so there is no need to cut it into pieces during processing.
3. The color of the hood is bright white, not curly and not broken. Try not to cover the edges of the hood in full bloom.

C. Equipment and Materials
Baskets, Rubber gloves, Masks, Aprons, Knives, Alcohol

D. Personnel Qualifications
Employees who are assigned tasks

E. Implementation Procedures
1. Before picking, wash your hands using a 70% alcohol solution
2. Picking is done in the morning before watering or misting.
3. Picking is done by pulling all the fruit bodies of the mushrooms down to the roots. Do not leave mushroom fruit bodies when harvested because it will trigger the process of rotting in the baglog.
4. Try not to damage the surrounding mushrooms that are not ready for harvest.
5. If possible, baglogs that have been harvested should be provided with protection to help prevent dehydration of the mycelia injured when harvested.

F. Target
Obtained oyster mushrooms in optimal conditions according to market demand.

Figure 10. SOP of Oyster Mushroom Harvesting

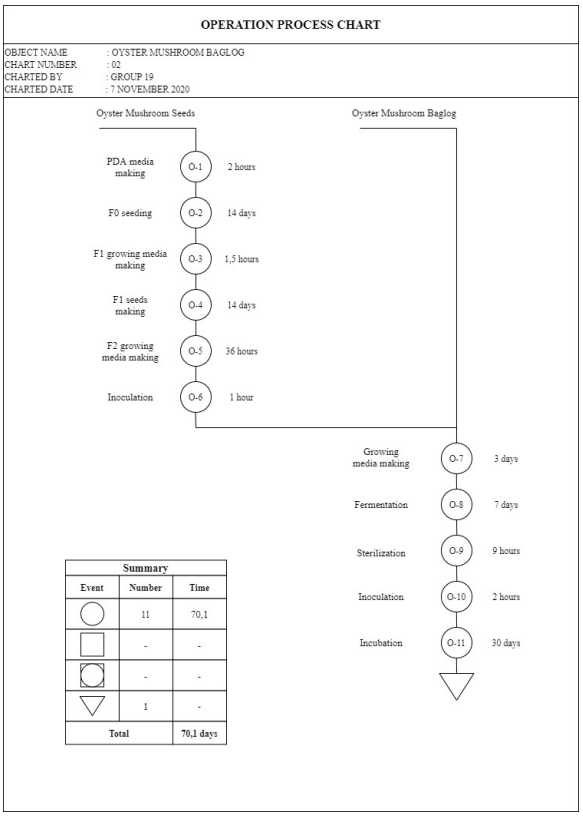

Figure 11. OPC of Oyster Mushroom Baglog

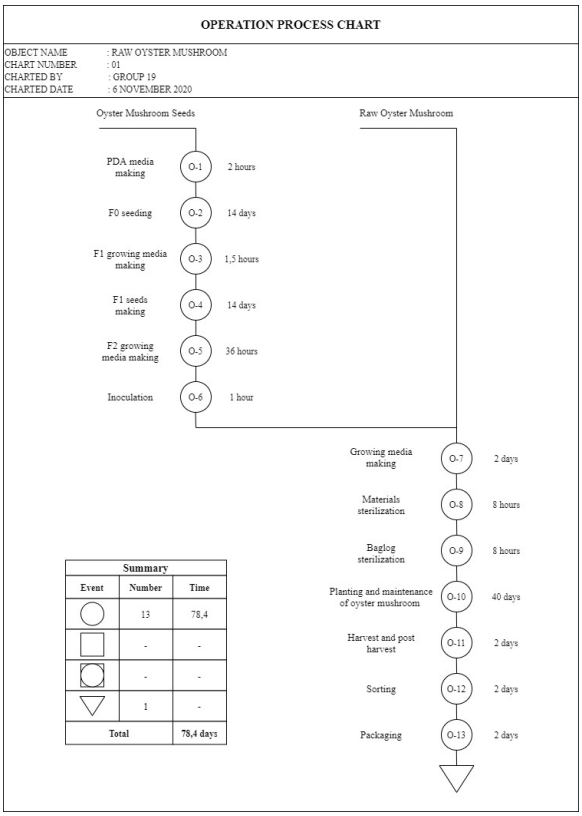

Figure 12. OPC of Raw Oyster Mushroom

5.3 Proposed Improvements

The proposed improvements to the Aneka Jamur Karanganyar can be in the form of meeting CPPB-IRT, recommendations for equipment investment, and recommendations for determining COGS. Fulfillment of the required CPPB-IRT standard is the elimination of non-conformity levels in SMEs. Table 6 shows the results of the assessment based on the IRT. The CPPB-IRT non-conformity assessment is carried out to see the mismatches or mistakes made by MSMEs. The balance on the CPPB-IRT is in the form of deviations in the category MI = Minor, MA = Major, SE = Serious, and KR = Critical following the Regulation of the Head of the National Food and Drug Administration of the Republic of Indonesia Number HK.03.1.23.04.12.2207 of 2012 regarding the inspection of production facilities home industry food.

Table 6. IRT Assessment Before Improvement on Aneka Jamur Karanganyar SMEs

No	Element Checked	Incompatibility			
F	EMPLOYEE HEALTH AND HYGIENE	MI	MA	SE	KR
15	Employees in food production are not wearing work clothes and/or wearing jewelry			✓	
M	RECORDING AND DOCUMENTATION	MI	MA	SE	KR
35	IRTP has no production documents			✓	
36	Production documents are not up to date, inaccurate, untraceable and not stored for 2 (two) times the shelf life of food products produced	✓			

Based on the table, it can be seen that at Aneka Jamur Karanganyar SMEs there are three discrepancies, namely one minor mismatch (MI) in the form of "Production documents are not current, inaccurate, untraceable and not stored for 2 (two) times the shelf life of food products produced." As well as two serious non-conformities (SE), namely "Employees in the food production section are not wearing work clothes and/or wearing jewelry" and "IRTP does not have production documents". Based on the results of this assessment, it was found that the Aneka Jamur Karanganyar SME was included in the level III level, which means that it must conduct audits with a frequency of every two weeks.

Oyster mushroom growth is highly dependent on environmental condition factors such as water content in the substrate ranging from 60-65%, the temperature in the formation of mycelium or incubation must be maintained between 16-22 ºC, humidity ranges from 60-70% during the growth period of mycelia and 80-90% at growth period, the light intensity required for fungal growth is around 200 lux (10%), oxygen which is an important element in cellular respiration, and the power of hydrogen (pH) with the optimum pH in the growing medium ranges from 6-7 (Susilawati and Budi 2010).

The recommended equipment needed by SMEs is that in the oyster mushrooms' house environment, a thermometer and hygrometer are needed, a thermometer is used to measure the temperature of the oyster mushrooms' house and the hygrometer is used to measure the humidity in the oyster mushrooms' house. Then a pump sprayer to control the humidity of the mushroom baglog, a pH meter to measure and monitor pH on the baglog growing media, a Lux meter to measure light intensity in the oyster mushrooms' house environment. Then the equipment for employees to use such as an apron to protect the front of the employee's body to avoid harmful substances at work, rubber gloves to protect employee hands while working, masks to prevent employees from inhaling hazardous substances, and maintaining hygiene. Based on the calculations that have been done, the determination of the COGS taken is based on the ABC method. The activity-based cost calculation method can provide information from the results of more accurate calculations and can search for all resources on the causes of costs in the production process carried out by SMEs.

5.4 Validation

Validation at the SIMILAR stage is Re-evaluate which is re-measured based on the performance of the SMEs. At this stage, measurements are taken based on the CBBP-IRT criteria. SMEs can be said to have worked optimally if it meets the level discrepancy in the IRT so that the validation of the success of problem-solving in the study determined by the final result of IRT assessment. Table 7 is showing the result of the IRT's final assessment after improvements.

Table 7. IRT Assessment After Improvement on Aneka Jamur Karanganyar SMEs

No	Element Checked	Incompatibility			
F	EMPLOYEE HEALTH AND HYGIENE	MI	MA	SE	KR
15	Employees in food production are not wearing work clothes and/or wearing jewelry				
M	RECORDING AND DOCUMENTATION				
35	IRTP has no production documents				
36	Production documents are not up to date, inaccurate, untraceable and not stored for 2 (two) times the shelf life of food products produced				

Based on the steps to resolve the CPPB-IRT non-conformity, the Aneka Jamur SMEs have been included in the level I criteria and are entitled to receive SPP-IRT. The proposal for solving the problems faced by SME Aneka is to implement hygienic standard operating procedures (SOPs). Also, to improve the financial aspect, each production batch was recorded to obtain clean and transparent financial records.

6. Conclusion

This research has produced alternatives to improve the performance of SMEs and solve existing problems. SME problems are resolved by improving production processes, controlling environmental factors, improving CPPB-IRT, and passing CPPB-IRT audits. Repair tools used in solving SME problems include OPC, Work SOPs, investment in production equipment, application of mushroom farming standards, application of CPPB-IRT, making of COGS, and application of SAK EMKM. Alternative solutions to problems provide SMEs results that meet the technical mushrooms farming standards and are entitled to apply for CPPB-IRT and SAK EMKM certification. SMEs with technical mushrooms farming standards, CPPB-IRT, and SAK EMKM certifications prove that the performance of SMEs has improved and is more optimal.

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