

Operational Performance Analysis in Serving Food at Cafes in Bandung City

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ABSTRACT: In this cafe, the waiting time for serving food is quite long, so it is necessary to determine the company's operational standards that have been implemented properly. This company's operational standards can be achieved by measuring operational performance. Work measurement is carried out to determine the level of employee performance during their activities. This study was conducted to determine the level of employee performance using a Time Study, and to determine the causes and effects of excessively long waiting times using a cause-and-effect diagram. Through the time study, the level of performance achieved by the employees themselves can be seen. The results showed that the level of employee performance in the cafe was still below the normal standard of performance level that should be. The average performance level only reached 84.23%. This is what causes long waiting times. The cause-and-effect diagram can be seen that the causes of long waiting times can be in terms of human resources, machines, raw materials, and capital.

KEYWORDS: process time, operational standards, operational performance

I. INTRODUCTION

Technological and industrial developments are now so rapid that they have an impact on human life today. Many businesses have sprung up, from small businesses to large ones, resulting in intense competition between industries, especially those operating in similar fields. This competition is not limited to one region, but spans across Indonesia and perhaps the entire world. Every city in Indonesia certainly has its own culinary tourism scene. A variety of unique culinary delights are found in every city in our country. In Bandung, there are many culinary delights displayed in every corner of the city, because the city is famous for its cool atmosphere and the perfect place for culinary tourism. Therefore, business people are competing to open businesses in the culinary sector. Culinary businesses in Bandung are also very diverse, ranging from cafes (coffee shops) and restaurants to street vendors.

Restaurants and cafes are commercially organized establishments that provide excellent service to all customers for food and drink. Besides profit-making, restaurants and cafes also strive to satisfy their guests, a key operational goal of restaurants and cafes (Tarigan, 2010). Generally, all industries share the same goals: to survive, profit, and evolve in line with market developments. Although many companies are still struggling with current market conditions, various measures can be taken to ensure their survival. To compete with other industries, they must improve the quality of their products and services, as well as innovate. Through innovation, these industries must design and refine their products and services, as well as select service processes, to ensure their competitiveness and superiority over their competitors.

Every industry must have goals that will ultimately lead to the desired results. Industrial goals will not be achieved without the support of the company, one of which is employees. Employees can determine whether a company will progress or decline. Employees are a crucial factor of production within a company; without them, it is very difficult for a company to achieve success. By having skilled, disciplined, optimistic, hardworking, and highly motivated employees, a company already possesses a very valuable asset.

Employees are required to perform their duties in accordance with established company procedures. Following company standards or operational regulations will positively impact the company's progress. These standards facilitate employees' work and align them with a shared purpose. In addition to serving as a communication tool, the company maintains an organizational structure that allows employees to perform their work in accordance with their respective divisions. Employees play a significant role in each area. Therefore, standard operating procedures are necessary to serve as role models for employees. This ensures

Operational Performance Analysis in Serving Food at Cafes in Bandung City

that employee work is directed and creates potential, professional, and reliable human resources, enabling them to realize the company's vision, mission, and goals. Measuring employee performance is crucial in human resource management.

Performance measurement is considered important because it allows us to determine how accurately employees are performing their duties. The accuracy of employee performance significantly impacts the company's overall performance. Furthermore, employee performance measurement results provide crucial information for employee development. Performance measurement can determine whether a company's operational processes are efficient and effective, based on the time required to produce a product or provide a service.

According to Pasolong (2013:182), performance appraisal is an evaluation of a person's success or failure in carrying out their duties. If the performance appraisal is for the bureaucracy, it means evaluating the success or failure of the bureaucracy in carrying out its duties as a public servant. Meanwhile, according to Garry Dessler (2013:182), performance appraisal is a systematic effort to compare what a person has achieved compared to existing standards. The goal is to encourage a person's performance to be above average. Therefore, performance appraisal has an important influence on company goals because the company can reduce and evaluate the results achieved by its employees. So the company can know if there is an error by its employees, then the company will take action to prevent it from hindering the company's goals. If employees in the company are motivated to work better, the company's employees will be able to work according to company standards or perhaps above company standards.

The research object is a cafe in Bandung, located not far from the city center. This cafe is quite popular with teenagers and adults. The automotive garage-themed atmosphere makes motorcycle enthusiasts feel at home and comfortable to relax. A diverse menu is served, ranging from coffee, food, milkshakes, main courses, and various other types. Likewise, the prices are affordable, especially for teenagers. If the number of visitors is not too large, food and drinks can be served quickly. However, when the number of visitors is very large, it often takes a long time to serve or customers must wait for the food or drink they have ordered. With this long wait, customers may not order or cancel their food or drink, which can affect the income and consumer perception of the cafe. The following is a table of waiting times for menu items at the cafe.

TABLE 1. WAITING TIME NOTES OF CAFÉ (MINUTES)

Menu	1	2	3	4	5	Performance Level
Main Course	33.41	31.11	35.28	32.08	33.49	120%
Snack	16.11	15.43	17.49	19.46	17.05	110%
Cold drinks	10.22	10.34	11.06	10.55	12.57	110%
Tea	13.20	11.38	12.54	10.16	11.27	105%
Coffee	25.47	23.17	24.36	26.54	27.55	115%

Source: Observation data

The table above shows that the wait time for food and drinks is approximately quite long. This prompted researchers to conduct a performance measurement study due to the relatively long wait times for food and drinks. Several other nearby cafes, such as Eat Boss Lengkong and Tiramisu Coffee, operate in the same industry. Below are the wait times for food/menu items from competitors.

Table 2. Competitor Cafe Waiting Time Notes (Minutes)

Menu	1 st Competitor	2 nd Competitor
Main Course	19.35	19.15
Snack	15	15.5
Cold drinks	9.45	9.45
Tea	7.12	7.20
Coffee	12.5	12

Source: Observation data

Operational Performance Analysis in Serving Food at Cafes in Bandung City

From the table above, it can be seen that the waiting time for serving food and drinks is relatively faster than the cafes studied.

II. LITERATURE REVIEW

Operations Management is an activity of converting inputs into outputs by organizing and coordinating all resources owned effectively and efficiently, and then converting them into goods or services. The scope of operations management is related to the operation of operating systems, selection and preparation of operating systems which include ten decisions, namely the design of goods and services, quality management, process and capacity design, location strategy, spatial strategy, human resources and job design, supply chain management, inventory management, scheduling, maintenance (Eka et al, 2025). Operational management is an activity to organize and coordinate the use of resources in the form of human resources, equipment resources and financial resources, and materials effectively and efficiently to create and increase the utility of a good or service. Operational management as decision making with all other operational functions can be seen as a transformation system that changes inputs into outputs (Suhardi, 2024). There are four reasons why we study Operations Management, namely through Operations Management we learn how people organize themselves for a productive company, through Operations Management we can find out how goods and services are produced, through Operations Management we can understand what operations managers do, Operations Management is the part that costs the most in an organization (Suhardi, 2023).

Work measurement is the process of determining the time required by a worker with an average skill level to complete a task under normal conditions. Work research focuses on the best way to complete a task. In a work system, the application of appropriate principles and techniques produces effective and efficient results. If a task is completed in the shortest time, it is considered effective and efficient. Efforts to determine the appropriate time limit for completing certain tasks fall under the category of work time measurement. In short, work measurement is a way to balance human work with the results produced (Nayla et al., 2024). Performance measurement is the continuous monitoring of a program's achievement. From long-term goals, its progress can be determined. Performance measurement is directed by management, including program-related activities, program outputs in the form of products or services, and the outcomes of those products or services. Programs can be activities, functions, projects, or policies that have identifiable objectives (Chaeroni et al., 2024).

Work measurement is a method for determining the time required for qualified workers to perform a task. Work measurement is needed to determine the most efficient activity for a particular task so that established standards align with actual implementation. Work measurement can serve as a standard guideline because it has data sourced from research. Managers also receive objective information and avoid subjective assessments based on their own personal perspectives. By using work measurement, a manager's management decisions can be tailored to the conditions prevailing in their company (Khadijah & Kusumawardhani, 2016).

Work procedure engineering is a science that consists of techniques and principles to obtain the best design of a work system. These techniques and principles are used to organize the components of the work system consisting of humans with their characteristics and abilities, materials, equipment and work tools, and the work environment in such a way as to achieve a high level of efficiency and productivity as measured by time spent, energy used and the resulting psychological and sociological consequences (Demmanggasa, 2023). The way to conduct an evaluation is by measuring performance. To be measurable, performance must be quantifiable. Performance is a description of the level of achievement of the implementation of a program or policy activity in realizing the goals, objectives, vision, and mission of an organization as outlined in an organization's strategic planning. The term performance is often used to refer to the achievements or level of success of individuals or groups of individuals. Performance measurement can be divided into traditional and contemporary methods. Traditional performance measurement is conducted by comparing actual performance with budgeted performance or standard costs according to the characteristics of the accountability, while contemporary performance measurement uses activities as its foundation. Performance measures are designed to assess how well activities are performed and can identify whether continuous improvement has been made (Chaeroni et al., 2024).

The method of measuring work time using a stopwatch time study was first introduced by Frederick W. Taylor around the 19th century. This method is suitable for short, repetitive tasks. The measurement results provide a standard time to complete a work cycle, which is then used as a standard for completion for all operators performing the same task. (Prayuda, 2020). Several factors must be considered before conducting work measurements:

1. Determine measurement objectives, preliminary research on the work, select workers to be measured, divide work into work elements and prepare tools for measurement.
2. Carry out time measurements where the measurer carries out several previously determined measurements, to take time data for the work elements being measured, then copy it onto the observation sheet provided previously.

Operational Performance Analysis in Serving Food at Cafes in Bandung City

3. Determining the standard time, the steps that need to be taken are the data that has been copied to the observation sheet called cycle time (statistical test), then next calculate the average cycle time with the formula $ws = \sum Xi / N$, calculate the normal time where the completion time of the work completed under reasonable conditions and average ability by considering the adjustment factor, namely $wn = ws \times p$ and the last is the standard time is the time that is reasonably needed by normal workers to complete their work which is done in the best work system or can be called the actual time that workers do to complete their work with the formula $wb = wn (1 + \text{allowance})$.

III. METHODOLOGY

This study uses three variables, namely the time required for the menu serving process as independent (X1), the operational standards required for serving menu dishes as independent (X2), and the operational performance required for serving food and beverage dishes as independent (Y). In this study, the researcher used a descriptive method to manage the data. The descriptive method is a method that aims to obtain an overview of an object to describe the condition of the company based on factors seen in the situation at hand. The purpose of the descriptive method is to describe aspects relevant to the phenomenon of concern from various perspectives. After the necessary data is collected, the researcher then processes the data using several analyses, including:

1. Quantitative Data Analysis is an analysis that uses data from time calculations by researchers using a time measuring tool (stopwatch). Formula:

$$\text{Average observation time} = \frac{\text{the amount of time recorded to perform all elements}}{\text{number of observations}}$$

$$\text{Normal Time} = \text{average observation time} \times \text{work rate factor}$$

$$\text{standard time} = \frac{\text{total normal time}}{1 - \text{slack factor}}$$

2. Qualitative Data Analysis is an analysis of existing data approaches to analyze existing problems. The data is used as input and compared with existing theories to assist research and presented descriptively in tables, graphs, and descriptions. After the necessary data is collected, the researcher then processes the data using several tools, including checksheets and cause-and-effect diagrams (fishbone). A checksheet is a form designed to record data. A checksheet helps researchers identify facts or patterns that may aid further analysis. In this case, the checksheet is useful for showing the length of time the food is served and the types of food or drinks being studied. Analysis of the factors causing the food to take too long to serve using a cause-and-effect diagram is useful for showing the main factors that influence the food serving and have an impact on the problem the researcher is studying.

IV. RESULTS

In this Cafe there are work procedures that must be adhered to by every employee in every division such as For daily working hours (Monday - Sunday) starting from 10.00 - 22.00 WIB; Employees who work are subject to a maximum time limit of 10 minutes late, if more than the time limit applied then there will be consequences that will be received by the employee; For overtime during events such as watching MotoGP together, watching football together. However, only for employees who are willing and will receive compensation.

With work procedures in place, employees are expected to perform optimally. Continuous and direct evaluations from the cafe owner can also motivate employees due to their direct involvement, and the owner also embraces all employees, fostering a strong bond with all employees working at the cafe. The cafe always uses fresh ingredients, and purchases of these ingredients are always evaluated by the cafe that orders them. Being one of the busiest businesses in Bandung and facing fierce competition with other cafes, cafe owners must also have good human resources. With good resources, it is possible for employees to make mistakes. However, these errors can be minimized and will have a positive impact on the cafe.

This research sample consisted of 5 (five) menus. The following is a time calculation using a stopwatch for the activity of making each menu that the researcher has calculated and compared:

1. In the first menu, researchers sampled a heavy meal, Red Nose Abbe. The process of making Red Nose Abbe at this cafe is not much different from other cafes in general. The following table shows the activities involved in making Red Nose Abbe at the cafe.

Operational Performance Analysis in Serving Food at Cafes in Bandung City

Table 3. Red Nose Abbe Manufacturing Process

Job sequence	1st Competitor perminute calculation	2nd Competitor perminute calculation	Cafe per minute calculation
Order reporting	0.4	0.4	1
Preparing raw materials	4	4.05	4.20
Cooking spices	5	4.57	5.1
Frying chicken	10	10	10
Mix the spices and chicken and cook	5	5	5
Final process (Adding cucumber, tomato and providing spoon and fork) and delivering the order to the consumer	2.15	2.17	4.15

Source: Observation data

2. The next menu item is French fries and sausage. The following is a table of activities involved in making French fries and sausage at the cafe.

Table 4. Process of making french fries and sausages

Job sequence	1st Competitor perminute calculation	2nd Competitor perminute calculation	Cafe per minute calculation
Order Reporting	0.4	0.4	1.3
Preparing raw materials	5.05	5	5.08
Heating the Oil	3	3	3,.05
Frying Potatoes and Sausages	5	5.02	5
Mixing Potatoes and Sausages with Salt Seasoning	3.10	3.12	3.12
Final process (Adding chili sauce and giving a fork) and delivering to consumers	2.18	2.15	4.20

Source: Observation data

3. The next menu item is the Oreo Milkshake. Below is a table showing the steps involved in making an Oreo Milkshake at the cafe.

Table 5. Process of making Oreo Milkshake

Job sequence	1st Competitor perminute calculation	2nd Competitor perminute calculation	Cafe per minute calculation
Order reporting to Barista	0.4	0.4	1.05
Prepare and mix the required ingredients	2	2	2.05
The process of mixing and stirring all ingredients using a blender	1.50	1.51	2
Final process (adding toppings and providing straws and small spoons) and delivering to consumers	1	0.57	3.32

Source: Observation data

Operational Performance Analysis in Serving Food at Cafes in Bandung City

3. The next menu item is Thai tea. Below is a table showing the steps involved in making Thai tea at the cafe.

Table 6. Thai Tea making process

Job sequence	1st Competitor per-minute calculation	2nd Competitor per-minute calculation	Cafe per minute calculation
Reporting orders to the Bar Officer (Barista)	0.4	0.4	1.4
Prepare and mix the required ingredients	1.35	1.31	1.39
The process of mixing all ingredients by stirring	1.54	1.55	1.57
Final process (providing straws and ice cubes) and delivering to consumers	2.17	2.15	4.22

Source: Observation data

5. The next menu item is Espresso Latte. Below is a table of the steps involved in making an Espresso Latte at a cafe.

Table 7. Espresso Latte Making Process

Job sequence	1st Competitor perminute calculation	2nd Competitor perminute calculation	Cafe per minute calculation
Order reporting	0.4	0.4	1.10
Remove the porta-filter and clean it	0.5	0.5	0.54
Carrying out the stages of distributing coffee from the grinding machine and weighing the coffee	2	2	2
Tamping and twist process	1.4	1.4	1.4
Perform the flush process and lock the porta-filter back in	0.57	0.57	0.57
Squeezing using an espresso machine	2.15	2.13	2.17
Gives a Latte flavor	1.33	1.36	1.39
Final process (Finishing and adding a little cream) and delivering to consumers	2.01	2.06	3.47

Source: Observation data

Every cafe has its own serving time targets, and their implementation is always fraught with unforeseen obstacles, whether from machinery or labor. These factors include raw materials, human resources, machinery, and capital. Waiting times can be caused by employee error or other unforeseen factors. Long wait times can lead to customer criticism and suggestions, potentially leading to the cafe losing customers. The following is a cause-and-effect diagram of excessively long wait times:

Operational Performance Analysis in Serving Food at Cafes in Bandung City

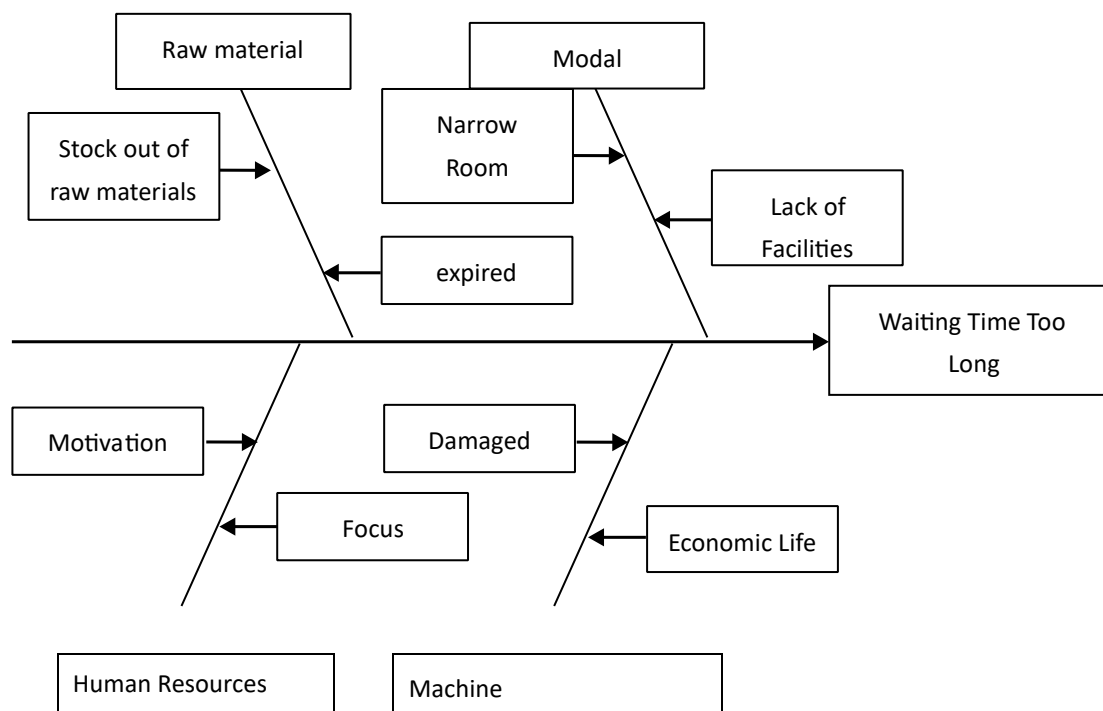


Figure 1. Cause-Effect Diagram

From the cause-and-effect diagram above, we can see that the causes of usage time can be due to factors such as raw materials, scope, human resources, and machinery. These factors can occur intentionally or unintentionally. The following factors will be discussed:

1) Raw Materials

● Stock out of raw materials

Raw material inventory is crucial for every cafe, and even every company. This is due to deliberate errors. Mistakes occur during checks or inspections, resulting in the cafe running out of raw materials. During inspections or inspections, the employee responsible for raw materials should be able to estimate or calculate the raw materials to be used to make an item.

● Expired

Inventory is crucial for any company engaged in manufacturing or providing services. This factor often arises from unintentional errors, but can also be intentional. An unintentional example is when the inspection department incorrectly estimates or calculates the raw materials used, resulting in excess inventory. An unintentional factor is when a cafe experiences a lack of customers or a lack of customers. This is a highly unpredictable occurrence. 2) Modal

● Narrow Room

The size of a room can be a factor in a company's production. Small or cramped spaces often lead to deliberate errors, as companies should be able to estimate and account for the space used for production. This can lead to employees' limited movement during work due to equipment obstructions.

● Lack of Facilities

Facilities can also assist companies in producing goods. This factor often arises from intentional errors, as companies should be able to provide employee-friendly work facilities, such as providing additional lighting in enclosed production areas.

3) Human Resources

● Motivation

Work motivation plays a crucial role in a company's employees' performance. High work motivation can maximize employee performance. This can occur due to unintentional errors, such as a lack of motivation from the company, leading to a lack of incentives to perform optimally. Companies should embrace and motivate employees to ensure they are motivated and able to perform optimally.

● Focus

This lack of focus on work can be a barrier for employees, impacting the company's production. This factor occurs due to both unintentional and intentional errors. For example, an unintentional factor is when an employee is sick or unfit for work, resulting

Operational Performance Analysis in Serving Food at Cafes in Bandung City

in a loss of concentration or focus. An intentional factor is when an employee jokes with a colleague while working, resulting in a loss of focus or concentration.

4) Machine

○ Damaged

Machines are tools used in production. This factor is often susceptible to both intentional and unintentional errors. Intentional errors occur due to inadequate maintenance by the cafe owner, resulting in machine damage. Unintentional errors occur when a machine suddenly jams while operating, resulting in unexpected damage.

○ Economic Life

Every piece of equipment has a lifespan, depending on its functionality, the materials used, and other factors. This factor often results from deliberate errors. Companies should have considered the machine's economic value. While a machine may appear to still be functioning well, if it's past its useful life, it won't operate optimally, requiring more time to operate.

In calculating the serving time for this menu, the author used a stopwatch on a mobile phone. The following is the data obtained or calculated by the researcher:

Table 8. Waiting Time for Menu Serving at Cafe

Menu	Samples taken in minutes					Average
	1	2	3	4	5	
Main Course	33.41	31.11	35.28	32.08	33.49	33.074
Coffee	16.11	15.43	17.49	19.46	17.05	17.108
Cold Drinks	10.22	10.34	11.06	10.55	12.57	10.948
Tea	13.2	11.38	12.54	10.16	11.27	11.71
Snack	25.47	23.12	24.36	26.59	27.55	25.418

Source: Observation data

The table above shows that if the sample menu does not have a standard time, it can result in excessively long wait times for orders. The company also stipulates a 5% (five percent) allowance for each activity. The following table presents a comparison and detailed explanation of operational performance measurements:

Table 9. Comparison of Operational Performance Measurements

Sample Type	Normal Time Cafe prediction	Cafe Standard Time prediction	Normal Time of Calculation Results	Difference
Red Nose Abbe	30	31.16	33.07	3.07
Espresso Latte	14.4	15.16	17.11	3.01
Milkshake Oreo	9.1	9.16	11.35	2.25
Thai Tea	10.03	10.14	12.11	2.08
French Fries and Sausage	22.20	23.33	25.42	3.22

Source: Data Processing Results

1. Red Nose Abbe

For heavy meals, the initial normal time for calculating making Red Nose Abbe is around 29.6 minutes or in seconds around 1776 seconds and the standard time requires around 31.16 minutes or in seconds around 1869.6 seconds. Meanwhile, the normal time obtained by the researcher during the study was around 33.07 minutes or in seconds around 1984.2 seconds. In this case, the activity of kitchen employees in the Cafe to make Red Nose Abbe is 89.49% or rounded to 89%. The remaining 10.51% or rounded to 11% is the time wasted due to intentional and unintentional factors.

2. Espresso Latte

For coffee drinks, the initial normal time for calculating making an Espresso Latte is around 14.4 minutes or 864 seconds, and the standard time is around 15.16 minutes or 909.6 seconds. Meanwhile, the normal time obtained by researchers during the study

Operational Performance Analysis in Serving Food at Cafes in Bandung City

was around 17.11 minutes or 1026.6 seconds. In this case, the activity of bar employees in the Cafe to make Espresso Latte was 84.17% or rounded to 84%. The remaining 15.83% or rounded to 16% is wasted time due to intentional and unintentional factors.

3. Milkshake Oreo

For cold drinks, the initial normal time for calculating making an Oreo Milkshake is around 9.1 minutes or 522 seconds, and the standard time requires around 9.16 minutes or 549.6 seconds. Meanwhile, the normal time obtained by the researcher during the study was around 11.35 minutes or 681 seconds. In this case, the activity of the kitchen employees at the Cafe to make the Oreo Milkshake was 79.47% or rounded to 79%. The remaining 20.53% or rounded to 21% is wasted time due to intentional and unintentional factors.

4. Thai Tea

For tea drinks, the initial normal time for calculating making Thai Tea is around 10.03 minutes or 578 seconds, and the standard time requires around 10.14 minutes or 608.4 seconds. Meanwhile, the normal time obtained by the researcher during the study was around 12.11 minutes or 726.6 seconds. In this case, the activity of the bar employees in the Cafe to make Thai Tea is 82.27% or rounded to 82%. The remaining 17.73% or rounded to 18% is wasted time due to intentional and unintentional factors.

5. French Fries and Sausage

For snacks, the initial normal time for calculating making French Fries and Sausage is around 22.20 minutes or 1308 seconds, and the standard time is around 23.33 minutes or 1399.8 seconds. Meanwhile, the normal time obtained by researchers during the study was around 25.42 minutes or 1525.2 seconds. In this case, the activity of kitchen employees in the Cafe to make French Fries and Sausage was 85.77% or rounded to 86%. The remaining 14.23% or rounded to 14% is wasted time due to intentional and unintentional factors.

From the 5 (five) samples used by the researcher to conduct the research, it can be seen that the average level of performance shows a figure of 84.23% (eighty-four point twenty-three percent) or rounded to 84% (eighty-four percent) where this figure shows that it is still below the average performance standard, the standard performance measure of which is 100% (one hundred percent). Thus, the level of performance that shows a figure below 100% (one hundred percent) is still considered not fast enough in serving menu dishes.

V. CONCLUSION

The operational overview of this cafe is not too different from other cafes, which have average opening times that are almost the same as other cafes. However, what sets it apart is the order confirmation and delivery times, which are slightly longer than other cafes. Based on the distributed questionnaires, the average respondent reported a normal level of performance. However, during the research, the sample size was still quite long and below the average performance time. The performance level of the employees studied was still below the normal performance level in general.

Raw materials must be taken into account during inspection, including estimates of their expiration date, shelf life (expired date), and purchase or order date. In terms of human resources, employee motivation needs to be increased to achieve even better performance. The owner's role is crucial in consistently providing motivation. Employee focus must be improved to encourage them to perform their activities even better. Regarding machinery, its economic life must be checked and routine maintenance performed, as it is a key tool for production and time efficiency. Regarding capital, capital must be adjusted to ensure it does not disrupt production or hinder other activities.

This research is expected to provide useful material or examples for future research related to assessing company operational performance. The overview of company operations and employee operational performance measurements studied are expected to serve as role models for improving operational performance to achieve faster and better performance. This research is expected to minimize waiting times and achieve the standards calculated by the researcher, while also improving employee performance, resulting in higher company profits.

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