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RESEARCH ARTICLE

INCREASING THE PRODUCTIVITY QUALITY OF EMPLOYEE EMPLOYMENT IN "SURYA WATER" BOGOR DRINKING WATER COMPANY USING PDCA (PLAN, DO, CHECK, ACTION)

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ABSTRACT

The purpose of this study was to find out: (1) Quality of work productivity of employees in the Solar Water Drinking Water Company Bogor, and (2) Improve the quality of work productivity of employees in the Bogor Water Drinking Water Company Bogor. Limitation of the problem in this study includes improving the quality of work productivity of employees. Besides that, this research focuses on the main problems. Other restrictions are time and cost constraints. The results of the study indicate that: (1) Planning (Plan) has been made but there are still problems concerning: (a) Funding, (b) Special training, and (c) Low quality of work productivity of employees, especially timeliness and achievement of targets, (2) Implementation (Do) is still a problem, there is no way to solve the problem of improving the quality of work productivity of employees that have been planned, (3) Check (Check) there are still problems, namely the quality of employee productivity is not in accordance with what is desired, the resources needed are less available, and the quality of employee work productivity that is being carried out requires continuous improvement, and (4) Improvement (Action) there are still problems namely Service Standards (SP): not yet in the Surya Water Drinking Water Company Bogor, and complete facilities, infrastructure, knowledge, technical competence, public perception, etc. inadequate, still lacking.

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INTRODUCTION

The problem of the quality of work productivity of employees in the Bogor Water Drinking Water Company Bogor is that the organizational productivity target has not been fully achieved. This situation shows that there are problems in employee work productivity, where most of the organizational productivity targets have not been achieved. The low quality of work productivity of employees in the Surya Water Bogor Drinking Water Company is as follows

- There are still some employees who do not understand their main tasks and functions (tupoksinya) thus inhibiting employee work productivity and program implementation.
- There are still employees who have not received changes and have not studied the new regulations resulting in low employee productivity.
- The low achievement of cross-field work on average is 80% seen from cross-field work which many experience obstacles.
- There are still complaints from the public about services that have not been in line with community expectations.
- Still not fulfilled as expected, where the employee attendance rate is still low, at an average of 85%.

Surya Water Bogor Drinking Water Company is demanded to be more independent and has real ability in carrying out its duties. In line with the developments that occur, In an effort to improve the quality of employees, stabilization of the implementation of the main tasks and functions is carried out by equalizing the vision and exploring potential. Thus the Water Drinking Company Surya Water Bogor is required to have competent employees, who always have high work motivation and are dynamic in anticipating any changes. Based on the description above, the authors are interested in examining the quality of work productivity of the Water Drinking Company Surya Water Bogor.

Furthermore, how to strive to improve the quality of work productivity of employees by using the PDCA method (Plan, Do, Check, Action). Besides that, at this time there has never been research on the quality of employee work productivity, and efforts to improve the quality of work productivity of employees by using the PDCA method (Plan, Do, Check, Action). Thus the need for research is conducted on: "Improving the Quality of Work Productivity of Employees in Surya Bogor Drinking Water Companies with PDCA Method (Plan, Do, Check, Action)". (1) What is the quality of work productivity of employees in the Surya Water Bogor Drinking Water Company? (2) How to improve the quality of work

productivity of employees in the Surya Water Bogor Drinking Water Company? The definition of productivity basically includes a mental attitude that always has the view that life on a day is better than yesterday and tomorrow is better than today (Sinungan and Muchdarsyah, 2003). Technically, productivity is a comparison between the results achieved (*output*) and the overall resources needed (*input*). Productivity contains an understanding of the comparison between the results achieved with the role of labor unity of time (Ravianto, 2001). From the definition above, it can be concluded that work productivity is the ability of employees to produce compared to the inputs used, an employee can be said to be productive if he is able to produce goods or services as expected in a short or appropriate time. Plan, Do, Check, Action is an iterative four-step problem solving process commonly used in quality control. PDCA is known as the "Shewhart cycle", because it was first put forward by Walter Shewhart several decades ago. But in its development, the PDCA analysis methodology is more often called the "Deming cycle". This is because Deming is a person who popularized its use and expanded its application.

However, Deming himself always referred to this method as the Shewhart cycle, from the name Walter A. Shewhart, which is often regarded as the father of statistical quality control. Later, Deming modified PDCA into PDSA ("Plan, Do, Study, Act") to better describe his recommendations. Whatever name is called, PDCA is a useful tool for continuous improvement without stopping (Vincent Gaspersz, 2007). The PDCA concept is a guideline for every manager for continuous quality improvement processes without stopping but increases to better conditions and is carried out in all parts of the organization Identifying the problems to be solved and finding their causes and determining corrective actions, must always be based on facts. This is intended to avoid the existence of elements of subjectivity and decision making that are too fast and emotional decisions (Anwar Prabu Mangkunegara, 2007). The stages in safeguarding a quality in order to remain in the standard that has been set, become the most important emphasis in the survival of an organization / company. These stages include: planning where a quality planning procedure is needed, the implementation phase requires a quality assurance, the evaluation phase requires a quality control, and the safeguarding stage and quality development. To create a quality product in accordance with the wishes of consumers, do not have to spend more money. Therefore, a good quality improvement program is needed, for example by implementing the PDCA program (Plan, Do, Check, Act) (Alex Nitisemito, 2000).

Benefits of PDCA are as follows

- Can be structured plan detailed work on resolving problems that have been set so easily carried
- to note the implementation of the settlement measures so that if found irregularities immediately be rectified in accordance with the needs of
- Program objectives maintain the quality of the increasing quality of service can be achieved gradually
- To facilitate the mapping of authority and responsibilities of an organizational unit;
- To resolve and control a problem with a pattern that is collapsing and systematic;
- For continuous improvement activities in order to shorten workflows;

- Eliminate waste at work and increase productivity (Ashar Munandar, 2001).

In management science, there is a problem solving concept that can be applied in our workplace, namely using the PDCA approach as a problem solving process. In the language of quality control, PDCA can be interpreted as a process of solving and controlling problems with a pattern of patterns and systematic. In summary, the PDCA Process can be explained as follows: (Alex Nitisemito, 2000).

P (Plan = Plan)

- It means planning the GOAL (GOAL) and PROCESS what is needed to determine the results that are in accordance with the SPECIFICATION of the objectives set. This PLAN must be translated in detail and per subsystem.
- This plan is done to identify targets and processes by finding out what things are wrong then looking for solutions or ideas to solve this problem. Stages that need to be considered include: identifying service services, expectations, and customer satisfaction to provide results in accordance with specifications. Then describe the process from the beginning to the end that will be done. Focus on quality improvement opportunities (choose one of the problems that will be resolved first). Identify the root cause of the problem. Put the goals and processes needed to provide results that are in accordance with the specifications.
- Refer to the activity of identifying opportunities for improvement and / or identification of ways to achieve improvement and improvement.
- Finally, look for and choose problem solving (Ashar Munandar, 2001).

D (Do = Do)

- It means DOING PROCESS planning that has been previously set. The measurements of this process have also been determined in the PLAN stage. In this DO concept we must really avoid delays, the more we postpone the work, the more time we waste and the more work will certainly be increased ...
- Implementation of the process. In this step, it is implementing a plan that has been prepared in advance and monitoring the implementation process on a small scale (pilot project).
- Referring to the implementation and implementation of planned activities (Bounds *et al.*).

C (Check = Evaluation)

- This means evaluating TARGETS and PROCESSES and reporting on the results. We check back on what we have done, have it been in accordance with existing standards or there are still shortcomings.
- Monitor and evaluate the process and results against targets and specifications and report the results.
- In checking there are two things that need to be considered, namely monitoring and evaluating the process and results of the targets and specifications.
- The techniques used are observation and survey. If you still find weaknesses, then an improvement plan is

prepared to be implemented next. If it fails, then look for another implementation, but if successful, do a routine.

- Refer to verification whether the application is in accordance with the desired improvement and improvement plan (Davis and Keith dan Newstrom, 2000).

A (Act = Follow Up)

- It means doing a total evaluation of the TARGET and PROCESS results and following up with improvements. If it turns out that what we have done is still lacking or not perfect, immediately take action to fix it. The ACT process is very important before we go further to the next process of improvement.
- Follow up on the results to make the necessary repairs. This also means reviewing all steps and modifying the process to fix it before the next implementation.
- Following up on results means standardizing changes, such as considering which areas might be applied, revising improved processes, modifying existing standards, procedures and policies, communicating to all staff, customers and suppliers for changes made when needed, developing plans that clear, and document the project. In addition, it is also necessary to monitor changes by taking measurements and controlling processes regularly (Davis, 2002).

The cycle will come back to the Plan stage to perform further process improvements resulting in a cycle of continuous process improvement (*Continuous Process Improvement*).

Research: Design The *research design* used in this study is a survey using a descriptive approach. The descriptive approach was chosen by considering its suitability with the objectives of the study. Descriptive means giving a description of the things asked in the study. The analysis technique used is descriptive statistical analysis. Descriptive statistical analysis is concerned with recording and summarizing data with the aim of describing the important things in a group of data.

Place and time research the: Study was conducted at the Surya Water Bogor Drinking Water Company. The study was conducted for approximately 2 (two) months since the proposal was approved.

Population and sampling: The population in this study were employees of the Bogor Water Drinking Water Company Bogor. The sampling technique used was *simple random sampling*. The technique of determining the number of samples in this study uses Slovin technique with a *error margin* 5%. The population of employees in the Water Drinking Company Surya Water Bogor amounts to 70 people. So the sample which is the respondent is 60 employees of the Bogor Water Drinking Water Company Bogor.

Data collection technique: The type of data taken in this study consists of primary data and secondary data. Primary data was collected from the Surya Water Bogor Drinking Water Company which became the sample / respondent. The instruments used in primary data collection were in the form of *guide questions* and questionnaires. Data collection techniques used in this study were interviews and questionnaires. While for secondary data collected from research sites and institutions

related to the purpose of research to facilitate and assist in interpreting primary data. The stages of the study began with making *guide questions* and questionnaires, then tested the validity and reliability of the questionnaire. Validity testing with the aim to test the accuracy of the questionnaire as a measuring instrument. While testing reliability with the aim to test the accuracy of the measurement scale on the questionnaire.

Data analysis techniques analysis: Data of Descriptive Statistics analysis techniques used in this study are descriptive analysis techniques. Descriptive analysis techniques are intended to look at the general picture.

PDCA Analysis

P (Plan = Plan)

- Plan what goals (goals / objectives) are needed to determine the results that match the specifications of the objectives set. This plan translates in detail and per subsystem.
- Identify goals and processes by finding out what things are wrong then looking for solutions or ideas to solve this problem.
- Identify service services, expectations, and community satisfaction to provide results in accordance with specifications.
- Describe the process from the beginning to the end to be carried out. Focusing on opportunities to improve the quality of work productivity of employees.
- Identify the root causes of the problem and put the goals and processes needed to produce results that are in accordance with the specifications.
- Identify opportunities for improvement and / or identification of ways to achieve improvement and improvement.
- Finally, look for and choose problem solving.

D (Do = Do)

- Planning a process that has been predetermined. The measurements of this process have also been determined in the Plan stage. In this DO concept avoid delays.
- Process implementation. In this step, it is implementing a plan that has been prepared in advance and monitoring the implementation process on a small scale.
- Referring to the implementation and implementation of planned activities. C (Check = Evaluation)
- Evaluate the goals and processes and report on the results. Re-examine what we have done, have it been in accordance with existing standards or there are still shortcomings.
- Monitor and evaluate the process and results against targets and specifications and report the results.
- In checking there are two things that are considered, namely monitoring and evaluating the process and results of the targets and specifications.
- The techniques used are observation and survey. If you still find weaknesses, then an improvement plan is prepared to be implemented next. If it fails, then look for another implementation, but if successful, do a routine.

- Refer to verification whether the application is in accordance with the desired improvement and improvement plan.

A (Act = Follow)

- Up Conducts a total evaluation of the results of the objectives and processes and follows up with improvements. If it turns out that what we have done is still lacking or not perfect, immediately take action to fix it. This Act process is very important before we go further to the next improvement process.
- Follow up on the results to make the necessary repairs. This also means reviewing all steps and modifying the process to fix it before the next implementation.
- Following up on results means standardizing changes, such as considering which areas might be applied, revising improved processes, modifying existing standards, procedures and policies, communicating to all employees and customers for changes made when needed, developing clear plans, and document activities. In addition, it is also necessary to monitor changes by taking measurements and controlling processes regularly.

DISCUSSION OF RESEARCH RESULTS

Work work quality of quality

- Based on the results of analysis of employees in work oriented to the quality of work results, most of the respondents agreed (66.7%), and a small percentage stated strongly agree (13.3%). These results indicate that most employees agree that work is oriented towards the quality of work.
- Based on the results of the analysis of the employees at work, they always prioritize the quality of the work that is as good as possible, most of the respondents agree (66.7%), and a small percentage expressly agree (6.7%). These results indicate that most employees agree that work always prioritizes the best quality work.
- Based on the results of the analysis of employees in working to prioritize work according to plan, most of the respondents stated that they quite agreed and agreed 43.3% respectively, and a small number stated disagree (3.3%). These results indicate that most employees agree that working in priority works according to plan.
- Based on the results of the analysis of each job always begins with careful planning, most of the respondents stated that they were quite agreeable (46.7%), and a small number expressed disagreement (10.0%). These results indicate that most employees agree that in each job always begins with careful planning.
- Based on the results of the analysis of each job always controlled the quality of the work, most of the respondents stated that they agreed enough (43.3%), and a small number stated strongly disagree (3.3%). These results indicate that most employees agree that in every job the quality of the work is always controlled.

Work quantity

- Based on the results of the analysis of the number of employee jobs adjusted to the number of employees,

most of the respondents said they did not agree (36.7%), and a small number stated strongly agree (10.0%). These results indicate that most employees do not agree that the number of employees is adjusted to the number of employees.

- Based on the results of the analysis of the number of employee jobs that are in great demand by employees, most of the respondents stated disagree (43.3%), and a small number expressed their agreement (6.7%). These results indicate that most employees do not agree that the number of employee jobs is in great demand by employees.
- Based on the results of the analysis of pleasant employees with additional work, most of the respondents stated that they agreed enough (26.7%), and a small number agreed (10.0%). These results indicate that most employees agree that employees are happy with additional work.

Timeliness: Based on the results of the analysis of the work assignments of employees can be completed on time, most of the respondents agreed (36.7%), and a small portion stated strongly agree (13.3%). These results indicate that most employees agree that employee work assignments can be completed on time. Based on the results of the analysis of any difficult work assignments, work is still done according to the target time, most of the respondents agree (43.3%), and a small percentage say strongly disagree (3.3%). These results indicate that most employees agree that any job duties of the employee are as difficult as they are on the target time. Based on the results of the analysis of the employee's work assignments, it is the employee's responsibility fully including the time of completion, most of the respondents stated that they were quite agreeable (40.0%), and a small percentage stated strongly disagree (3.3%). These results indicate that most employees agree that the employee's job duties are the responsibility of the employee entirely, including the completion time. Based on the results of the analysis of the work duties of employees pleasant to do with a scheduled time, most of the respondents stated that they were quite agreeable (40.0%), and a small number stated strongly disagree (6.7%). These results indicate that most employees agree that the employee's work assignments are fun to do with a scheduled time.

Based on the results of the analysis of employees willing to work overtime to complete work for the completion of the work in accordance with the specified time, most of the respondents stated that they were quite agreeable (40.0%), and a small number stated strongly disagree (3.3%). These results indicate that most employees agree enough that employees are willing to work overtime to complete work for the completion of the work in accordance with the specified time. Based on the results of the analysis of employees completing the work in accordance with the specified time, most of the respondents stated that they agreed enough (33.3%), and a small number stated strongly disagree (6.7%). These results indicate that most employees agree that the employee completes the work according to the specified time. Based on the results of the analysis of the work assignments of employees if it is difficult to even make employees challenged to be able to complete the work, most of the respondents stated strongly agree (30.0%), and a small number expressed disagreement (3.3%). These results indicate that most employees strongly agree that the job duties of employees if it is difficult actually makes employees challenged to be able to complete the work.

Plan, Do, Check, and Action

Planning (Plan) A

- Plan to improve the quality of work productivity of employees was made at the Surya Water Drinking Water Company Bogor.
- Problems with improving the quality of work productivity of employees faced by the Surya Water Bogor Drinking Water Company include: (1) Funding, (2) Special training, and (3) Low quality of work productivity of employees, especially timeliness and achievement of targets.
- Formulation of general objectives and specific objectives, namely the welfare of the community through villages
- Activities carried out in improving the quality of work productivity of employees in the Bogor Water Drinking Water Company Bogor, namely making activities within the Surya Water Drinking Water Company Bogor, specifically in the form of training.
- In the composition of the implementing team to improve the quality of work productivity of employees in the Bogor Water Drinking Water Company, namely Management and Employees.
- The budget for improving the quality of work productivity of employees in the Bogor Water Drinking Water Company is Rp. 85,000,000.
- Measuring the success of improving the quality of work productivity of employees in the Water Drinking Company Surya Water Bogor, which is used is the increase in employee performance.

Implementation (Do)

- Communication skills to generate staff understanding of how to improve employee work productivity by providing special training.
- Motivation skills to encourage staff are willing to complete the way to solve the problem of improving the quality of work productivity of employees that have been planned, there is no
- leadership skill to coordinate the activities of ways to solve the problem of improving the quality of employee work productivity carried out by the way leaders provide activities to their employees freely.
- Direction skills to direct activities to improve the quality of work productivity of employees carried out by opening a bazaar if there are exhibitions in order to introduce the Bogor Water Drinking Water Company Bogor.

Check (Check)

- Implementation of the way to solve the problem of improving the quality of work productivity of employees in accordance with the plans that have been set, not in accordance with what is desired.
- Activities that run well and which parts have not gone well: activities that work well can lead to the work of employees who have not been stagnant.
- The resources needed are less available.

- The way to solve the problem of improving the quality of employee work productivity that is being carried out requires continuous improvement.

Improvement (Action)

- Quality improvement of employee work productivity according to or not in accordance with the standards set, Service Standards (SP): there is no SP in the Bogor Water Drinking Water Company Bogor.
- Completeness of facilities, infrastructure, knowledge, technical competence, public perception, etc. inadequate, still lacking. Based on the results of the identification of Quality Improvement of Employee Work Productivity with PDCA, then:

Plan: Problem of Quality Improvement of Work Productivity of Water Drinking Company Surya Water Bogor which has not been in line with expectations. Schedule of Plans Efforts to Improve Work Productivity Quality of Water Drinking Company Surya Water Bogor.

Problem Formulation and Description of the

Why is the Effort to Improve the Productivity of the Solar Water Drinking Water Company Bogor?

Answer: because the quality of work productivity of Bogor Water Drinking Water Company is still low or not in line with expectations.

What is the purpose of the efforts to improve the quality of work productivity of the Surya Water Drinking Water Company Bogor?

Answer: To meet the Quality Standards of Work Productivity of Water Drinking Company Surya Water Bogor.

Who is the target in an effort to improve the Productivity Quality of the Surya Water Drinking Water Company Bogor?

Answer: All Employees of Quality Productivity Work of Water Drinking Company Surya Water Bogor.

Where is the effort to improve the Productivity Quality of the Solar Water Drinking Water Company Bogor?

Answer: In the environment of the Bogor Water Drinking Water Company Bogor.

When will the effort to improve the Productivity Quality of the Surya Water Drinking Water Company Bogor?

Answer: In the first week of January 2018 until the first semester of 2018.

How to efforts made to improve the Work Productivity Quality of Drinking Water Companies Solar Water Bogor?

Answer: By making continuous improvements through special training, procurement of facilities and infrastructure, making minimum service standards, determining indicators of employee work productivity quality.

Objective formulation: Meet the standards of Quality of Work Productivity of the Water Drinking Company Surya Water Bogor which have been determined so that the Quality of Work Productivity of the Employees of Water Drinking Company Surya Water Bogor has increased.

Description of Activities

- Disseminate questionnaires to employees of the Bogor Water Drinking Water Company and the public regarding the Quality of Work Productivity of the Bogor Water Drinking Water Company.
- Conduct interviews with the Bogor Water Drinking Water Company Bogor and the public about the perceived constraints regarding the Work Productivity Quality of the Water Drinking Solar Water Company Bogor at that time.
- Hold facilities and infrastructure that have not been fulfilled and replace facilities and infrastructure that are not feasible to use.

Assessment Criteria

- Questionnaire, said to be successful if there were 250 respondents who filled out the questionnaire
- Interview, said to be successful if employees and the community attended the interview and answered interview questions well.
- Special training, procurement of facilities and infrastructure, making minimum service standards, determining quality indicators of employee work productivity successfully if it has been implemented properly.

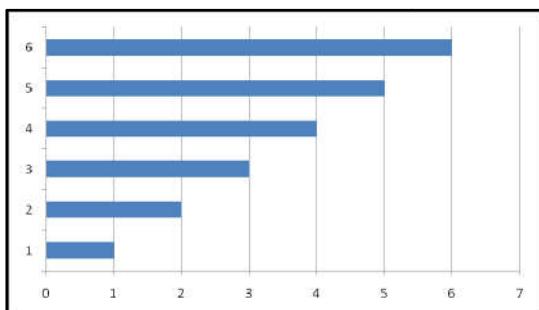
Time of 2018 from January to June 2018 Activities

- Special training
- Procurement of facilities and infrastructure
- Establishment of minimum service standards
- Determination of work productivity quality indicators

Implementing

- Team Quality Assurance Team Workers of Water Drinking Company Surya Water Bogor.
- Surya Water Bogor Drinking Water Company.
- Surya Water Bogor Drinking Water Company.
- Interviewees.

DO Schedule of Implementation January 2018 - June 2018



Remarks

- 1st and 2nd Special Training

- Month: 3rd Month: Procurement of Infrastructure
- 4th Month: Making Minimum Service Standards for the
- 5th and 6th Month: Determining Quality Indicators for Employee Productivity.

Check

- special training, as needed quality improvement employee productivity
- Procurement of equipment and facilities, as needed quality improvement employee productivity
- Making minimum service standards based quality standard employee productivity
- Determining quality indicators employee productivity

Action

- Special Training
- Procurement infrastructure
- Making standard minimum service
- Determination of employee work productivity quality indicators

Conclusion

Based on the results and discussion it can be concluded as follows

Work Productivity Quality of Work

- Most employees (66.7%) in work oriented to the quality of work results
- Most employees (66.7%) in working always prioritizing the quality of the best work possible.
- Most employees (43.3%) in working prioritize work according to plan.
- Most employees (46.7%) in each job always begin with careful planning.
- Most employees (43.3%) in each job are always controlled by the quality of work.

Work Quantity

- Most of the number of employees employed (36.7%) is not adjusted for the number of employees.
- Most of the number of employee jobs (43.3%) are not much sought after by employees.
- Most employees (26.7%) are happy with additional work.

Timeliness

- Most employee work assignments (43.3%) can be completed on time.
- Most of the work duties of employees (40.0%) are as difficult as possible while still being done according to the target time.
- Most of the work duties of employees (40.0%) are fully employee responsibilities including the time of completion.
- Most employee work tasks (40.0%) are fun to do with scheduled times.
- Most employees (33.3%) are willing to work overtime to complete the work for the completion of the work in accordance with the specified time.

- Most employees (30.0%) complete work according to the specified time.
- Most of the work duties of employees (30.0%) if it is difficult actually make employees challenged to be able to complete the work.

Plan, Do, Check, and Action Planning (Plan) A

- Plan to improve the quality of work productivity of employees was made at the in Surya Water Drinking Water Company Bogor.
- Problems with improving the quality of work productivity of employees faced by the Surya Water Bogor Drinking Water Company include: (1) Funding, (2) Special training, and (3) Low quality of work productivity of employees, especially timeliness and achievement of targets.

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