Implementation of Material Process Standard Operational Procedures

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Abstract. Standard Operational Procedures are work guidelines that are very important for a company to implement properly because they function as a legal basis and guidelines to minimize errors in work implementation. This research aims to find out how standard operational procedures for material processing are implemented in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar. Data collection techniques through observation, interviews, and documentation. The research results show that the implementation of standard operational procedures has been implemented well, this can be seen from each dimension, namely the work efficiency dimension which has been efficient, the employee work consistency dimension has been consistent but there is still a flow of activities that are not being implemented. Dimension Minimization of errors that employees can make in work activities. Dimensions Problem resolution can be done by employees carrying out existing procedures. The work protection dimension has been implemented well. Appropriate work map dimensions. This research presents new information regarding the implementation of standard operational procedures for material processes in more detail by linking the theory and locus in this research which is different from previous research, namely in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar. So this research can be used as evaluation material for research loci to improve employee work consistency through the implementation of good standard operational procedures.

Keywords: Materials, Implementation, SOP

1. Introduction

Nowadays, business competition between companies is very tight. For this reason, every company takes steps to be able to operate and compete in its field. So companies need to maintain consistency in the work of their employees. Because the success of a company also depends on the success of each employee (Darwis et al., 2019; Jamaluddin et al., 2019; Mustafa et al., 2022; Niswaty et al., 2021; Suprianto & Arhas, 2022). PT PLN (Persero) UP3 South Makassar is one of the State-Owned Enterprises (BUMN) that operates in the service sector and acts as a provider of electricity services throughout Indonesia. PT PLN (Persero) UP3 South Makassar is the part that handles customer service and distribution of electricity networks in sub-units. Apart from being involved in customer service, PT PLN (Persero) UP3 Makassar Selatan is also closely related to the construction sector, which in this sector includes another sub-sector, namely the logistics sub-sector. The logistics sub-sector is a sub-sector that carries out activities such as inputting material balances via the SAP application and distributing materials to customer service units.

PT PLN (Persero) UP3 South Makassar, especially in the logistics sub-sector, carries out a series of activities such as the process of procuring goods and distributing materials to several customer service units (ULP) and vendors who collaborate in picking up materials. With these activities, to avoid employee work errors, especially in the process of receiving materials and releasing materials, guidelines are needed that compile employee work procedures, namely guidelines for standard operational procedures for material processes.

Standard operational procedures are documents that explain employee operational work activities that are carried out appropriately and consistently to be able to produce products that comply with predetermined standards (Arhas et al., 2021; Castro et al., 2023; Jiang et al., 2021). The existence of standard operating procedures...
can help a company to achieve its goals. In achieving its goals, companies can properly implement work guidelines that contain work steps that employees carry out at work to minimize errors in carrying out their duties. In line with what was stated by (Ajusta & Addin, 2018; Davenport & Short, 1990; Prabandari, 2021; Zairi, 1997) that standard operational procedures are a set of rules for an employee's work process or steps in a work process.

The main function of standard operational procedures is to make it easier for employees to do their work. For this reason, it is important for companies to have good, correct, and clear procedures so that they can facilitate the continuous monitoring process of employee work activities. Standard operational procedures can also act as a strong legal basis if there is a deviation in work activities. Thus, standard operational procedures can also be a tool to identify obstacles in work activities and provide direction to employees to maintain discipline. Thus, each flow in creating standard operational procedures needs to be structured clearly and appropriately to achieve the company's goals. Apart from that, a good implementation of standard operational procedures can show a consistency of work results, product results, and regularity in work activities.

Standard operational procedures not only need to be created but also need to be implemented well in each company to achieve its goals. As discovered by (Haerul et al., 2016) that implementation is an activity in carrying out programs that have been prepared to achieve organizational goals. For this reason, it is very necessary for a company to implement good procedures because standard operational procedures can help achieve organizational goals by creating order in the implementation of organizational tasks, and public services, as well as legal certainty in each implementation of their duties. However, if these standard operational procedures are not implemented or do not work according to the company's expectations, it will have a major impact on employee work activities, such as decreased work effectiveness, irregularities in the implementation of each employee's duties, then irregularities in work can occur which can impact the objectives. companies that cannot be achieved optimally.

The importance of implementing good standard operational procedures as work guidelines need to be carried out in the logistics sub-sector considering that the activities in this sub-sector are activities related to material distribution so that to facilitate employee work and avoid employee work errors, the application of procedures needs to be carried out. However, in initial observations, it was found that one of the flowcharts in the process of receiving materials and releasing materials, namely scanning barcodes, was not carried out by employees when materials came in or out. Apart from that, sometimes there is a difference between the balance in the application and the physical balance in the warehouse because material input and material output are not carried out consistently when the material comes in or out. Thus, the implementation of standard operational procedures still needs to be known whether the procedures have been implemented well or not, because these procedures are expected to provide order in employee work activities as work guidelines and can achieve company goals optimally.

2. Method

This research uses a qualitative research approach as explained by (Sugiyono, 2018) that qualitative research is a research method based on the philosophy of positivism or entrepreneurship, used to research the conditions of natural objects, where the researcher is the key instrument, data collection techniques are carried out by triangulation (a combination of observation, interviews, documentation). There were 4 informants in this research, namely 1 logistics supervisor, 1 logistics staff and 2 warehouse administration staff. Data collection techniques in this research are through interviews, observation and documentation. Next, the results of the data findings are
carried out by data condensation, namely sorting or simplifying to make it easier to categorize the data. Then display the data, namely a short description in the form of narrative text in the form of a matrix or chart arranged in a relationship pattern so that it is easy to understand. The final step in making a decision, namely the content of the conclusion which contains important information from research findings supported by evidence of valid data findings, (Miles & Huberman, 1994).

3. Results and Discussion

To find out an overview of the Implementation of Standard Operational Procedures for Material Processes in the Logistics Sub-Sector of PT PLN (Persero) UP3 South Makassar, the researcher carried out a data processing process and presented the data that had been obtained during the research using interview, observation and documentation techniques. The results of the data obtained from these three techniques are then presented in descriptive form by adapting the theory put forward by (Santosa, 2014) regarding the dimensions of standard operational procedures which include efficiency, consistency, error minimization, problem solving, work protection and work maps. Apart from that, the factors that support and hinder the implementation of standard operational procedures for material processing in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar are also described. The description of data analysis during the research process is as follows:

3.1 Implementation of Standard Operational Procedures for Material Processes in the Logistics Sub-Sector of PT PLN (Persero) UP3 South Makassar

Efficiency Dimensions

Efficiency is accuracy in the form of things related to activities or work activities that are expected to be more precise and able to achieve the desired goals. To determine the implementation of standard operational procedures for material processes through the efficiency dimension, can be measured through several indicators which include the timeliness of employees' work when they enter the office, the accuracy of employees' work in providing services quickly and precisely by following every procedure in material receipt and material expenditure activities.

Based on the results of interviews with several employees in the logistics sub-sector, it can be seen that the work efficiency of employees in their work activities has been efficient where each employee before carrying out their work comes to the office according to the specified time by taking attendance first, then the employee works quickly and precisely and serves immediately when there is material coming in or material coming out. Apart from that, employees also follow every existing process and carry out each job according to their main duties and functions.

Based on the results of observations made, it can be seen that employee work efficiency is efficient, seen from how each employee carries out their work by taking attendance first, then providing service quite well and immediately serving the process of receiving materials and also releasing materials by following existing procedures, then every Employee also carry out their work in accordance with their respective duties and functions.

Consistency Dimension

Consistency is a provision or things that do not change or activities that are carried out continuously. The consistency dimension can be measured through several indicators which include employee discipline when entering the office, employee discipline in complying with existing rules, and employee consistency in carrying out every existing procedure in material receipt and material expenditure activities.
Based on the results of interviews with several employees in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar, it can be seen that the consistency of employee work in their work activities is consistent, where each employee is disciplined by coming to the office at the appointed time, then each employee is disciplined in following every regulation in the logistics warehouse. Apart from that, employees also consistently follow existing procedures in carrying out their work. However, there are stages of activity that employees do not carry out, namely scanning barcodes on materials because the material barcodes are not yet complete.

Based on the results of the observations made, it can be seen that work consistency is consistent, this can be seen from the employees who come to the office according to the predetermined hours, then the employees carry out their work by following the flowchart on procedures in the process of receiving materials and releasing existing materials, and employees comply with all existing regulations in the logistics warehouse.

**Error Minimization Dimensions**

Minimizing errors is a form of prevention that can prevent work activities from all errors in all areas of the workforce. The dimension of minimizing errors that can be measured is how employees in their work activities follow every procedure in the process of receiving materials and releasing materials and employees prioritize health and safety at work.

Based on interviews with several employees in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar, it can be seen that minimizing employee errors in work activities can be done by employees following existing procedures in each work activity, both in the process of receiving materials and issuing materials. When carrying out work, employees also need to pay attention to health and safety at work to avoid work risks that may arise, such as using personal protective equipment at work.

Based on the results of observations made, it can be seen that every employee in providing services in receiving materials and releasing materials has followed every existing procedure in every work activity, and every employee also prioritizes health and safety at work. Like using personal protective equipment while working.

**Problem solving**

Problem-solving is the ability to solve problems that may arise in company activities. The problem-solving dimension can be measured from how the role of standard operational procedures can become a policy or basis for decision-making on problems that may arise in employee work activities.

Based on the results of interviews with several employees in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar, it can be seen that the role of standard operational procedures not only acts as a work guide but can also provide problem-solving where operational procedures can play a role in decision making to resolve problems in work. Employee.

Based on the results of the observations made, it can be seen that the role of standard operational procedures can be carried out in solving problems. This can be seen from how decisions are made in the material expenditure process, where this material is needed (urgent), then material expenditure will be carried out with confirmation from the head of the sub-sector logistics and known to the construction manager. Apart from that, if the demand for material does not match the stock in the warehouse, then the material issued will only be in accordance with the amount of stock in the warehouse. So the role of procedures can be in making decisions to provide solutions to problems in employee work activities.
Job Protection

Work protection is work steps that contain all the procedures for protecting each resource from possible work risks that exist. The implementation of procedures is expected to be a forum for protecting employee work. Dimensions of work protection that can be measured include employees using personal protective equipment (PPE) at work and employees implementing 5R in their work activities to make work easier.

Based on the results of interviews with several employees in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar, it can be seen that a form of work protection is that employees are required to use personal protective equipment (PPE) such as helmets, vests, shoes, gloves. Then, in work activities there is also a need to feel safe and comfortable, for this reason, it is necessary to apply the 5 R principles (compact, clean, cared for, diligent, and neat) such as by creating a conducive work environment, for example the floor in the warehouse is made non-slip, several material storage shelves are provided. It can no longer be used so it must be replaced immediately. Storage of materials in accordance with the storage rack is done as a form of work protection and to provide work convenience for employees.

Based on the results of observations made, it can be seen that each employee in carrying out work activities in receiving and releasing materials uses personal protective equipment (PPE), then in work activities by applying the 5 R’s (clean, concise, cared for, diligent and neat) this can also be seen how does each employee receive materials, where incoming materials are placed in accordance with the specified material storage shelves, then each employee also maintains and cares for personal protective equipment and other tools that can support the work. Apart from that, employees also pay attention to the conditions of the work environment which are expected to be conducive, thereby providing a feeling of security, comfort, and work protection for employees.

Job Map

A work map is a work pattern that contains all employee work activities that have been systematically arranged for the employee to carry out. With the flow in standard operational procedures, it is hoped that it will make it easier for employees to carry out their work according to their respective abilities so that employees can be more focused on carrying out their work. The dimensions of the work map that can be measured are how appropriate the work map is in implementing existing procedures, as well as employee understanding in determining the existing work map in carrying out each job.

Based on the results of the researcher’s interviews with several employees in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar, it can be seen that the work map that has been determined in the logistics sub-sector to handle the process of receiving materials and releasing materials is appropriate and every employee understands each of them. Each part of the work that has been determined.

Based on the results of observations made, it can be seen that the work map that has been determined is appropriate and understood by employees. This can be seen in how each employee has carried out each job in accordance with their job description.

3.2 Factors that Support and Inhibit the Implementation of Standard Operational Procedures for Material Processes in the Logistics Sub-Sector

Supporting factors

Based on the results of the researcher's interviews with several employees in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar, it can be seen that there are several factors that support the implementation of standard operational procedures, namely from the aspect that procedures for receiving materials and releasing materials...
are quite clear, then the completeness of personal protective equipment, the environmental conditions for employee work activities are also safe and conducive and the supporting tools and equipment for employee work activities are also sufficient to assist work operations.

Based on the results of observations made, it can be seen that the factors that support the implementation of standard operational procedures for material processes are that it can be seen that there are procedures as work guidelines that are quite clear, then there is the availability of PPE that can be used by employees in their work, there is also an application for making administrative letters. Warehouse business and employee working environment conditions are also safe and conducive.

Obstacle factor

Based on the results of the researcher’s interviews with several employees in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar, it can be seen that there are several factors that hinder the implementation of standard operational procedures, namely the supply of materials which sometimes does not match needs, then the timeliness of the arrival of materials which sometimes not on time so that the material turnover is not balanced, then sometimes there is an urgent collection of material where the applicant does not bring complete documents as a basis for material collection. Apart from that, barcode scanning was not carried out on incoming and outgoing materials because some materials did not yet have barcodes.

Based on the results of the observations made, it can be seen that the factors that hinder the implementation of standard operational procedures for material processing are that there is material inventory that is still not suitable when the applicant wants to take the material and the material that arrives is not on time so that the material turnover is unbalanced. Then there are also applicants who want to take urgent materials without bringing complete documents as a basis for taking materials. Apart from that, barcode scanning of incoming and outgoing materials is still not carried out.

Discussion

3.1 Implementation of Standard Operational Procedures for Material Processes in the Logistics Sub-Sector of PT PLN (Persero) UP3 South Makassar

Efficiency

Efficiency as accuracy related to activities or activities that are expected to be not only fast but also accurate in accordance with the expected goals and objectives (Dimian et al., 2023; Rožman et al., 2021; Wu et al., 2021). Work efficiency in implementing standard operational procedures is expected to make it easier for employees to work by prioritizing accuracy and speed in providing services.

Based on the results of observations and interviews regarding the implementation of standard operational procedures for material processes in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar, the dimension of efficiency has been implemented as seen from the accuracy of employee work by following every existing procedure in the process of receiving materials and issuing materials. Furthermore, accuracy in terms of time when employees come to work according to working hours, accompanied by attendance before carrying out their work, employees also provide immediate service when there is material coming in or out. This is in line with an opinion implementing standard operational procedures, efficiency in terms of company work units will be increased significantly both in terms of time, work processes, labor, and operational costs.
Consistency

Consistency is provisions or things that do not change, and things related to consistency really require high discipline. Employee consistency in work is important in work activities because through consistency employees can be more disciplined in themselves, and with consistency, each employee can achieve the desired work targets.

Based on the results of observations and interviews regarding the implementation of standard operational procedures for material processes in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar, the dimension of work consistency has been implemented as seen from the discipline of employees entering work according to predetermined working hours, the discipline of employees in complying with existing rules in logistics warehouse. Employees have also been quite consistent in following procedures for receiving materials and releasing materials even though there are still flows that have not been implemented, namely scanning barcodes on materials because the material barcodes are incomplete. This is in line with an opinion (Rifka, 2017) that "Good implementation of Standard Operating Procedures will show consistency of work results, product results and service processes all with reference to convenience, service and balanced arrangements".

Minimization of Errors

Minimizing errors is a work activity that can keep working away from all errors in every area. For this reason, standard operational procedures become definite guidelines that guide each employee to carry out their work activities systematically. Therefore, to reduce errors in the work operational area, minimizing errors needs to be carried out to keep employees away from all possible errors in work.

Based on the results of observations and interviews regarding the implementation of standard operational procedures for material processing in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar, the dimension of minimizing errors has been implemented as seen from each employee following existing procedures in every work activity, both in the material receipt and expenditure processes. material. When working, employees also pay attention to health and safety at work to avoid work risks that may arise.

This is in line with opinion (Agustina, 2021) that the implementation of standard operational procedures is carried out seriously by all parties from superiors to subordinates who will be able to feel the benefits both for the company and their work because POS was created to minimize losses and reduce errors that often occur which are ongoing.

Problem solving

The role of standard operational procedures as problem-solving that "Standard operational procedures are useful for resolving problems that arise in the operation of a company". Conflicts between employees sometimes occur but there is no mediator who can resolve them. Standard operational procedures that have been prepared appropriately will provide problem resolution with employee compliance with the implementation of standard operational procedures.

Based on the results of observations and interviews regarding the implementation of operating procedures. Onal material process standards in the logistics sub-sector of PT PLN (Persero) UP3 Makassar Selatan have implemented a problem solving dimension in work activities. It is known that the role of standard operational procedures not only acts as a work guide but can also provide problem-solving where operational procedures can play a role. in making decisions to resolve problems in employee work. There are many employees working and it is certain that each individual also has a different mindset and character. However, according to him, having this procedure is
quite helpful in controlling employees if there are differences of opinion which could result in misunderstandings.

**Job Protection**

Job protection is protection that includes steps that contain all procedures to protect each employee and various personal problems so that standard operational procedures are useful for protecting employee problems such as company loyalty and employees personally. This work protection is related to how a company can protect its employees from accidents while doing their work.

Based on the results of observations and interviews regarding the implementation of standard operational procedures for material processing in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar, a work protection dimension has been implemented which includes the availability of personal protective equipment (PPE) such as helmets, vests, shoes and gloves which are mandatory for employees use it while working. Then, in work activities, there needs to be a feeling of safety and comfort so that employees apply the 5 R principles (compact, neat, cared for, diligent, and neat) such as by creating a conducive work environment, for example, the floor in the warehouse is made non-slip, some material storage shelves are no longer used. can be used so that it can be replaced immediately, storing materials in accordance with the storage shelves is done as a form of work protection and makes work easier for employees.

The use of PPE when working is very important to implement because by using personal protective equipment that is complete and appropriate to the risks and dangers, it will reduce the occurrence of work-related accidents. Further research results stated that "Workers have carried out diligent behavior by carrying out their obligations as workers who have carried out the 5 R's behavior as an effort to prevent work accidents".

**Job Map**

Work maps are patterns that have been arranged regularly and systematically as a habit. With standard operational procedures, work patterns become more focused and not stretched. By carrying out work mapping, it is hoped that the work activities carried out by employees will be more focused, systematic and disciplined and can help the progress of an organization.

Based on the results of observations and interviews regarding the implementation of standard operational procedures for material processes in the logistics sub-sector of PT PLN (Persero) UP3 South Makassar, a work map dimension has been implemented which emphasizes the suitability of the work map and employee understanding of the work map that has been determined. This can be seen from each employee understanding each part of their work and carrying out each job according to their job description. Mapping a job must be in accordance with the abilities possessed by employees so that the activities carried out can run effectively and efficiently. Then, with standard operational procedures, it is hoped that the work pattern will be more focused and not spread all over the place so that mapping a job can help the company's progress.

### 3.2 Factors that Support and Inhibit the Implementation of Standard Operational Procedures for Material Processes in the Logistics Sub-Sector

**Supporting factors**

Factors that support the implementation of standard operational procedures greatly influence the implementation of employee work, therefore these factors can make it easier for employees to work. Based on the results of research and observations, there are several factors that support the implementation of standard operational procedures, namely the aspects of procedures for receiving materials and releasing materials that
are quite clear, then the availability of personal protective equipment that is quite complete and the conditions of the employee working environment that are also safe and conducive and tools support and support for employee work activities is also sufficient to assist work operations.

This is in line with the results of research conducted by Pranata (2018) that "Factors that support the implementation of circulation service SOPs are employee performance which has been supported by a computerized system and adequate facilities and infrastructure so as to make it easy for employees to implement circulation service SOPs." Furthermore, the availability of personal protective equipment is the first step in compliance with the use of personal protective equipment to prevent accidents and work risks that will occur in the company. If the company does not provide personal protective equipment, it means that the company has endangered the work from the risk of accidents and diseases that will arise in the work environment.

Obstacle factor

Factors that hinder the implementation of standard operational procedures can reduce employee productivity at work and the goals achieved will be less than optimal. Based on the results of research and observations, it can be concluded that there are several factors that hinder the implementation of standard operational procedures, namely material supplies which sometimes do not meet needs, then the timeliness of the arrival of materials which is sometimes not on time so that material turnover is unbalanced, then sometimes there is material taking urgently where the applicant does not bring complete documents as a basis for collecting materials. The main function of inventory is as a support, connecting the production and distribution processes to obtain efficiency.

4. Conclusion

Based on the description of the research results and discussion regarding the implementation of standard operational procedures for material processes in the logistics sub-sector at PT PLN (Persero) UP3 South Makassar, it can be concluded that standard operational procedures for material processes have been implemented well as work guidelines. This can be seen from each dimension, namely: 1) employee work efficiency is efficient, seen from employees coming to work on time by taking attendance, and employee work processes being fast and precise by following procedures in serving material receipts and material expenditure. 2) The consistency dimension where each employee is consistent in working with employee discipline in obeying the rules and entering the office according to the specified hours, and each employee is quite consistent in following existing procedures in work activities, even though there is one activity, namely barcode scanning, which the employee does not carry out. because some materials do not yet have barcodes. 3) The dimension of minimizing errors made by employees by following existing work procedures and prioritizing work health and safety. 4) Dimensions of problem-solving that can be carried out with the role of existing procedures can become policies in making decisions on existing problems. 5) The dimensions of work protection that have been implemented by employees by using personal protective equipment (PPE) at work, and every employee implementing 5R behavior at work to facilitate and provide safety at work. 6) Appropriate work map dimensions where employees carry out their work in accordance with the work map that has been carried out.
References


