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Analysis of Safety Culture Maturity Level On the Level of Work Accidents at PT PLN Greater Jakarta Distribution Unit

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ABSTRACT: PT PLN is one of the electricity industries that has a high level of work accidents, so that in carrying out its business processes PT PLN requires a good safety culture. Safety culture that runs in a company is certainly something that can be measured, one of the measurements is by assessing the safety culture maturity level. This study aims to measure and analyze the condition of safety culture maturity at PT PLN Greater Jakarta Distribution Unit (UID JAYA) because 71.4% of work accidents are dominant in the distribution function. This research uses a quantitative descriptive method that aims to describe a situation objectively using numbers, starting from data collection, interpretation of the data, as well as the appearance and results. The safety culture maturity model used is the concept of the Hudson model with a measuring instrument in the form of a questionnaire that has a total of 30 questions covering psychological, behavioral, and situational aspects. Measurements are grouped into five dimensions, namely information & communication, commitment, organizational learning, leadership & involvement, and competence. The population in this study were all workers with selected fields in the PT PLN UID JAYA work unit with a total sample of 365 people from a total population of 4174 people. The results showed that the safety culture maturity level value of PT PLN UID JAYA was 4.35. This value places the safety culture maturity level of PT PLN UID JAYA at the proactive level. However, this condition certainly does not rule out opportunities and suggestions for improvements to company conditions that are still an obstacle.

Keywords: safety culture, occupational health and safety, work accident.

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1. INTRODUCTION

An accident is an event that is unwanted and cannot be planned to occur because it causes direct and indirect losses. In the Regulation of the Minister of Manpower No. 4 of 1993, work accidents are accidents that occur in the work environment, including diseases that arise due to work relationships, as well as those that occur on the way to and from work (Cooper, 2012). Based on data from the Employment Social Security Organizing Agency (BPJS), the number of work accidents that occurred in Indonesia over the past five years has increased from 123,040 cases throughout 2017 to 265,334 cases throughout 2022.

Even though the government already has clear rules with policies and risk control provisions in the form of an Occupational Safety and Health Management System (SMK3) to achieve productive, efficient work activities, and increase the effectiveness of health and safety protection for workers.

Controlling work accidents can be done by applying a safety culture approach. Safety culture is a value, attitude, competence, and pattern applied by individuals and groups in an organization that shows a commitment to

occupational health and safety (K3) (Cooper, 2012). This study uses a safety culture maturity approach. Safety Culture Maturity (SCM) not only focuses on maintaining individual safety and health, but also prioritizes the safety aspects of others, and is one of the important components of safety management systems in many industries that have potential hazards to work safety.

Research by Filho et al. (2010) examined the assessment of safety culture in 23 petrochemical companies in Brazil using the Hudson model concept by considering the situational aspects of the company. Moreira (2021) researched in the Civil Engineering laboratory of UFPa, Brazil, using the Filho model with adaptation of terms for the academic environment without considering any aspects. McGeorge (2011) developed measurement criteria for safety culture maturity in construction, using the Keil Center concept by considering psychological aspects, situational aspects, and behavioral aspects. In this study, researchers decided to use Hudson's safety culture maturity model by considering three aspects, namely psychological aspects, situational aspects, and behavioral aspects.

Limited Liability Company State Electricity Company (PT PLN) (Persero) is one of the companies engaged in electricity. Some of the work at PT PLN (Persero) is very close to electricity so that there is a high potential for work accidents such as being hit by electricity or shocked. Based on the annual work accident statistics of PT PLN (Persero) in 2019/2020, the dominant work accident occurred in the distribution function with a percentage of 71.4%. Most of the potentially hazardous work is done by outsourcing (TAD), more than 90% of accidents that occur in the distribution function are experienced by outsourcing (TAD) and the remaining less than 10% are experienced by employees. On the other hand, statistical data on work accidents of PT PLN (Persero) in 2019/2020 also shows a decrease in cases of work accidents that occurred. In 2019, the number of work accidents and fatality cases that occurred was (61 work accidents / 27 fatality), The number of work accidents and fatality cases that occurred in 2020 was (60 work accidents / 23 fatality).

Although there is a decrease in cases of work accidents, the prevention of potential hazards and the reduction of the number of work accidents remain important and PT PLN (Persero) still needs opportunities for improvement in OHS management including the application of safety culture maturity.

The above shows that studies related to safety culture maturity are an important concern at PT PLN (Persero), especially in the Greater Jakarta Distribution Unit. Therefore, this research is needed to measure and determine the extent of the safety culture maturity of PT PLN UID JAYA. Because the results of measuring safety culture maturity in this study can be a recommendation for improving safety culture, improvement opportunities, and reducing or preventing the level of work accidents that occur in the company.

2. THEORETICAL ANALYSIS

Despite the widespread recognition of safety culture's importance, only a few organizations have successfully implemented effective safety culture improvements. One of the reasons for this is the lack of clear guidelines on what constitutes a good safety culture and how such a culture can be implemented. The development of safety culture models dates back to 1993 when Westrum categorized culture maturity into three levels: pathological, bureaucratic, and generative. The first safety culture maturity model was introduced by the International Atomic Energy Agency (IAEA) in 2002. Safety culture maturity can be understood as one of the approaches used by organizations to evaluate their performance and ability to maintain a better safety management status. The level of safety maturity reflects how well an organization can manage its actions and change its internal procedures, leading to improved safety performance through the promotion of a safety culture.

3. METHODOLOGY

This research begins with identifying the K3 conditions that exist at PT PLN UID JAYA in general. Identification is done in two ways, namely direct observation and interviews with the company's OHS department. The addition of information related to the company's conditions and problems is also obtained by literature study. the literature study carried out comes from a number of references in the form of writings such as books, journals,

theses or previous final assignments, literature reviews, research papers, and other sources related to the conditions and research problems.

After conducting field studies and literature studies, second step is to identify problem formulations to find out what problems will be raised in the research from the results of the identification of the previous stage. studies related to safety culture maturity are an important concern in every industrial sector, one of which is the energy industry. The problem formulation raised in this study is to measure and determine the extent to which the safety culture maturity level at PT PLN (Persero) UID JAYA.

The purpose of this research is to measure and analyze the condition of safety culture maturity and determine the level of safety culture maturity at PT PLN (Persero) UID JAYA. The benefits of this research are to make it easier for companies to conduct evaluations related to safety culture, maintain or improve the application of safety culture based on the results of maturity level measurements, and increase awareness of the importance of safety culture in Occupational Health and Safety in a company.

The third is data collection, starting with the safety culture maturity model used in this study is the concept of the model used by Hudson which includes five levels, namely pathological, reactive, calculative, proactive, and generative levels and is mixed with the concepts used by Cooper and Guldenmund which consider three main aspects, namely psychological aspects, behavioral aspects, and situational aspects. Then the determination of the measuring instrument used in this study is a questionnaire that already exists in previous research (Hamonangan, 2018), but item adjustments are still made due to differences in the conditions of the research object. This measuring instrument has 30 questions with a measurement framework grouped into five dimensions including commitment (MIT), leadership & involvement (I), competence (TE), information & communication (IC), and organizational learning (OL).

After the measuring instrument is appropriate, the fourth step is determining the number of samples. In this study, cluster random sampling technique was used (sampling technique from several sampling units which are groups of elements). Determination of the number of samples is adjusted to the conditions of the company. The department that was sampled was chosen based on the recommendation of the company expert, namely the K3 department. The sample calculation in this study uses the slovin equation by considering a margin of error of 5% with the following formulation.

$$n = \left[\frac{N}{1+N(e)^2}\right] \quad [1]$$

n = Minimum sample
N = Total all employees
e = Margin of error

Then the determination of the proportion of each work unit is obtained from the number of employees of each work area unit in PT PLN UID JAYA. The following is the proportion calculation and sample calculation for each unit.

$$P_i = \frac{X}{N} \times 100 \quad [2]$$

Pi = Population proportion per work unit
N = Total all employees
X = Number of employees per work unit

$$ni = Pi \times n \quad [3]$$

Pi = Population proportion per work unit
ni = Sample per work unit
n = Minimum sample

The fifth step is data collection. This stage was carried out by distributing questionnaires via google form. The data is filled in by self-assessment. After the data is collected, self-selection is carried out to eliminate the

answers of respondents who are deemed not to have filled out the questionnaire correctly.

The sixth is the data processing stage, before reaching the safety culture maturity level assessment stage, validity and reliability tests are carried out using Microsoft Excel software and carried out on each question item.
The validity test aims to determine whether or not the measuring instrument used is valid. The validity test carried out in this study uses the Pearson Correlation with the level of significance used, namely 5% (0.05) with the limit of the R table (n>200) is 0.14.

The reliability test carried out aims to show the consistency of a measuring instrument in measuring similar symptoms. The reliability test in this study was measured by the Cronbach's alpha method. A variable is said to be reliable if the Cronbach's alpha value > R table. The limit of the Cronbach's alpha value used is 0.7. The calculation of the reliability test for each dimension is carried out with the following equation.

$$r = \left[\frac{k}{(k-1)}\right]\left[1 - \frac{\Sigma\sigma b^2}{\sigma t^2}\right] \quad [4]$$

r = Reliability coefficient alpha
k = Number of question items
Σσb2 = Number of item variants
σt2 = Total variant

Furthermore, the calculation of safety culture maturity level is carried out both for the company and each work unit. There are two calculations that will be carried out, namely by looking for values based on aspects and dimensions. The following is the equation used in calculating the value based on the three aspects considered.

$$NA_j = \sum_{i=1}^{10} \frac{JP_iAj}{10} \quad [5]$$

NAj = The value of j aspect
JPiAj = Question answer I aspect j

The second stage is to find values based on the five dimensions that are the measurement framework in this study. The following is the equation used.

$$ND_k = \sum_{j=1}^{3} \sum_{i=1}^{2} \frac{JP_iD_2A_i}{2} \times BA_j \quad [6]$$

NDk = The value of k dimension
JPiD2Aj = Question answer I dimension 2 aspect j
BAj = Weight value of j-aspect

Next is to calculate the safety culture maturity level value by calculating the average value to get the safety culture maturity level value of each work unit and company. The equation used is as follows.

$$NSM_l = \sum_{k=1}^{5} \frac{NDkSl}{5} \quad [7]$$

NSM1 = Safety maturity level value 1st work unit
NDkU1 = Value of k dimension of 1st work unit

The seventh or last step is to propose improvements to the company's safety culture condition by calculating the frequency of each dimension that is still less than the company's safety culture maturity level value. Then analyze and determine which indicators are the main / biggest obstacles.

4. RESULTS AND DISCUSSION

The results of this study are the determination of the number of samples that will be research respondents, validity tests, reliability tests, calculation of safety culture maturity values including the calculation of the value of aspects and dimensions in it, then the results of identifying proposed improvements to the condition of the company.

4.1 Sample Size Determination

PT PLN UID JAYA is composed of two work units, namely the Customer Service Implementation Unit (UP3) and the Distribution Regulatory Implementation Unit (UP2D), which are divided into 16 UP3 areas and one UP2D area. The department chosen as the sample is the department that most often comes into contact with the problem of work accidents or has potential hazards in its work, namely the distribution department, construction, commerce, electrical energy transactions (Transenergy), occupational health and safety (K3), and outsourcing (TAD).

Based on the data collected, the population of employees in this study was 4174 people. Sample calculation using the calculation formula (1) obtained a sample size of 365 people. Then proceed with the calculation of the proportion and number of samples for each work area unit using calculations (2) and (3). Detailed results of these calculations can be seen in **Table 1.**

Table 1. Research Respondents

Work Units	Number of Employees	Proportions	Samples Per work Unit
UID	109	3%	10
UP2D JAKARTA	256	6%	22
UP3 BANDENGAN	275	7%	24
UP3 BINTARO	265	6%	23
UP3 BULUNGAN	259	6%	23
UP3 CENGKARENG	282	7%	25
UP3 CEMPAKA PUTIH	222	5%	19
UP3 CIRACAS	224	5%	20
UP3 CIPUTAT	291	7%	25
UP3 JATINEGARA	196	5%	17
UP3 KEBON JERUK	158	4%	14
UP3 KRAMATJATI	145	3%	13
UP3 LENTENG AGUNG	208	5%	18
UP3 PONDOK KOPI	215	5%	19
UP3 PONDOK GEDE	341	8%	30
UP3 MARUNDA	262	6%	23
UP3 MENTENG	311	7%	27
UP3 TANJUNG PRIOK	155	4%	14
Number of Employees	**4174**		**365**

4.2 Validity Test

This test is used to determine whether or not the measuring instrument used is valid. So this test aims to measure whether the questions in the questionnaire used can measure what the researcher wants to measure. In the process of testing the validity of the questionnaire in this study, it was carried out using Microsoft Excel software. The basis for the decision taken is if the value of r count > from the value of r table, then the questionnaire is declared valid and vice versa. **Table 2** shows the results of the validity test on this research measuring instrument.

Table 2. Validity Test Results

Question Item	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Correlation Counts	0.71	0.68	0.66	0.73	0.71	0.69	0.72	0.77	0.74	0.73
Correlation Tables	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Summary	v	v	v	v	v	v	v	v	v	v
Question Items	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Correlation Counts	0.77	0.64	0.83	0.82	0.71	0.83	0.70	0.82	0.86	0.82
Correlation Tables	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Summary	v	v	v	v	v	v	v	v	v	v
Question Items	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Correlation Counts	0.77	0.84	0.79	0.84	0.48	0.77	0.76	0.81	0.78	0.78
Correlation Tables	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Summary	v	v	v	v	v	v	v	v	v	v

4.3 Reliability Test

Reliability test or commonly referred to as reliability test is a test of a value that aims to show the consistency of a measuring instrument in measuring similar symptoms. The smaller the error in measurement, the more reliable the measuring instrument. this is measured by the cronbach's alpha method using Microsoft Excel software. A variable is said to be reliable if the Cronbach's alpha value> R table and vice versa. Based on research related to safety culture and climate variables the limit of the Cronbach's alpha value used is 0.7 (Rubin, et al, 2020). **Table 3** shows the results of the reliability test of each dimension included in the measuring instrument of this study.

4.4 Calculation of Safety Culture Maturity

There are two calculations that Will be carried out,namely by finding values based on aspects and dimensions that represent the contents of the questionnaires that have been filled out. The first is to find the value based on the three aspects considered in this study, where every aspect has 10 questions each. **Table 4** shows the results of the calculation of the three aspect values of all work units using calculation (5).

The second stage is to find values based on five dimensions where each dimension has six questions on the questionnaire and each dimension is represented by two questions from three aspects. Calculations were performed on all dimensions in each work unit and company using calculation (6). The results of all dimension values in each work unit and company are shown in **Table 5**.

Table 3. Reliability Test Results

Dimensions	**INFORMATION & COMMUNICATION**	**COMMITMENT**	**ORGANIZATIONAL LEARNING**	**LEADERSHIP & INVOLVMENT**	**COMPETENCE**
R	0.97	0.85	0.91	0.93	0.89

Table 4. Work Unit & Company Aspect Score

Work Units	Psychological	Situasional	Behavior
UID	3.95	4.02	3.97
UP2D JAKARTA	4.03	4.12	4.24
UP3 BANDENGAN	4.27	4.11	4.24
UP3 BINTARO	3.83	3.71	3.89
UP3 BULUNGAN	4.18	4.32	4.45
UP3 CENGKARENG	4.34	4.22	4.54
UP3 CEMPAKA PUTIH	4.17	4.04	4.19
UP3 CIRACAS	4.60	4.69	4.76
UP3 CIPUTAT	4.29	4.25	4.40
UP3 JATINEGARA	4.43	4.62	4.67
UP3 KEBON JERUK	4.59	4.52	4.74
UP3 KRAMATJATI	4.57	4.75	4.60
UP3 LENTENG AGUNG	4.45	4.54	4.61
UP3 PONDOK KOPI	3.68	3.74	3.70
UP3 PONDOK GEDE	4.67	4.64	4.65
UP3 MARUNDA	4.73	4.70	4.71
UP3 MENTENG	4.16	4.17	4.23
UP3 TANJUNG PRIOK	4.60	4.58	4.74
PERUSAHAAN	4.31	4.32	4.41

Table 5. Work Unit & Company Dimensions Score

Work Units	Dimensions				
	IC	MIT	OL	I	TE
PERUSAHAAN	4.38	4.29	4.35	4.44	4.30
UID	3.95	3.95	4.13	4.07	3.84
UP2D JAKARTA	4.36	4.18	3.96	4.13	4.13
UP3 BANDENGAN	4.18	4.19	4.26	4.33	4.10
UP3 BINTARO	3.93	3.78	3.64	3.91	3.73
UP3 BULUNGAN	4.44	4.24	4.35	4.48	4.27
UP3 CENGKARENG	4.39	4.25	4.27	4.52	4.38
UP3 CEMPAKA PUTIH	4.16	3.99	4.13	4.17	4.13
UP3 CIRACAS	4.58	4.69	4.68	4.83	4.75
UP3 CIPUTAT	4.28	4.36	4.28	4.42	4.23
UP3 JATINEGARA	4.83	4.63	4.72	4.68	4.21
UP3 KEBON JERUK	4.42	4.47	4.75	4.78	4.66
UP3 KRAMATJATI	4.67	4.62	4.70	4.69	4.63
UP3 LENTENG AGUNG	4.39	4.51	4.64	4.69	4.52
UP3 PONDOK KOPI	3.78	3.62	3.77	3.73	3.67
UP3 PONDOK GEDE	4.63	4.68	4.69	4.63	4.62
UP3 MARUNDA	4.81	4.62	4.70	4.69	4.73
UP3 MENTENG	4.38	3.97	4.18	4.37	4.05
UP3 TANJUNG PRIOK	4.68	4.51	4.51	4.80	4.73

Next is to calculate the value of safety culture maturity level. Based on the results of the previous two stages, an average value calculation is carried out to obtain the value of the safety culture maturity level at the company and each of its work units using one of the values, namely the dimension value. Calculation (7) is performed on all dimension values in each work unit including the company. The results of this calculation are shown in **Table 6**.

Table 6. Safety Culture Maturity Level Score per Work Unit & Company

Work Units	***MATURITY***
PERUSAHAAN	4.35
UID	3.99
UP2D JAKARTA	4.15
UP3 BANDENGAN	4.21
UP3 BINTARO	3.80
UP3 BULUNGAN	4.35
UP3 CENGKARENG	4.36
UP3 CEMPAKA PUTIH	4.12
UP3 CIRACAS	4.70
UP3 CIPUTAT	4.31
UP3 JATINEGARA	4.61
UP3 KEBON JERUK	4.61
UP3 KRAMATJATI	4.66
UP3 LENTENG AGUNG	4.55
UP3 PONDOK KOPI	3.72
UP3 PONDOK GEDE	4.65
UP3 MARUNDA	4.71
UP3 MENTENG	4.19
UP3 TANJUNG PRIOK	4.65

4.5 Proposed Improvements to Company Conditions

The results of the calculation of the safety culture maturity level value at the company that has been carried out get a value of 4,35. This puts PT PLN UID JAYA at the proactive level. However, this condition does not rule out opportunities and proposals for improvement in areas that are still an obstacle, considering that the types of work in PT PLN UID JAYA are almost entirely included in the extreme level.

The identification of improvement proposals in this study uses the Pareto concept, namely by looking for 20% of the frequency of problems that have an adverse impact of 80% on the company's safety culture. This process is done by taking the respondent's answer from each question that is below the company's safety culture achievement value. The proposed improvements are divided into two groups, namely employees and outsourcing (TAD). The employee group contains departments that are mostly involved in managerial work, while the TAD group contains departments that are mostly involved in technical work. Figure 1 and 2 shows the pareto of the proposed improvements in both groups.

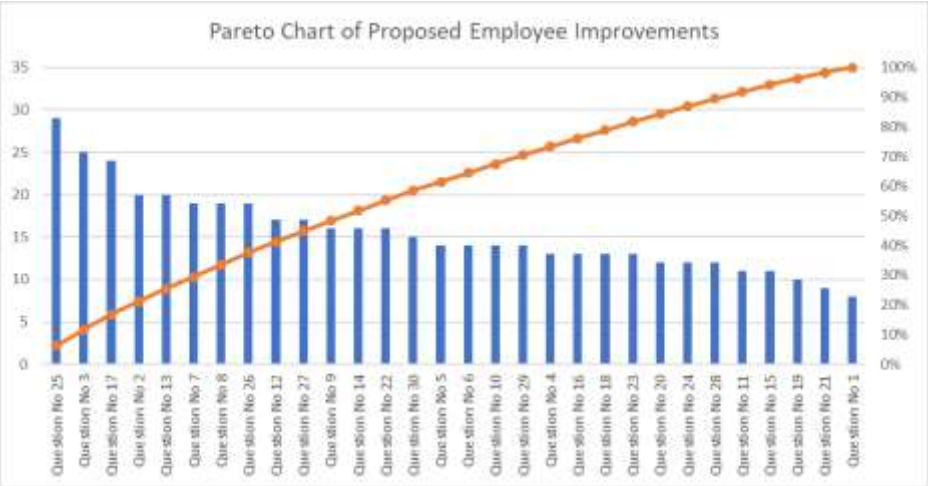

Figure. 1. Pareto Chart of Proposed Employee Improvements

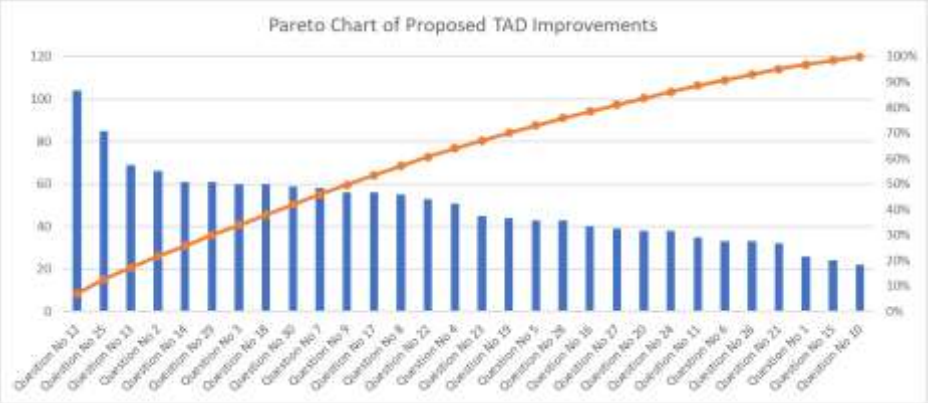

Figure. 2. Pareto Chart of Proposed TAD Improvements

Based on the pareto chart of proposed improvements in the employee and TAD groups, 20% of the opportunities for proposed improvements in both groups are in 14 questions, namely numbers 2, 3, 7, 8, 12, 13, 14, 17, 18, 25, 26, 27, 29, and 30. 20% of these problems have an impact of 45% on the value of safety culture maturity level at the company.

From the results of the pareto charts shown in Figures 1 and 2, the biggest obstacles that occur between the two groups are that most employees or workers who are assigned tasks are still incapable of carrying out their duties, discussion activities in the company between all parties involved in the implementation of OHS have not been carried out optimally, and OHS information obtained by employees has not made changes in the way employees or workers carry out their duties. Meanwhile, several other obstacles that occur between the two groups above are that not all employees know the procedures for reporting work accidents that occur in the work environment, the handling of OHS carried out by the company has not had an impact on employees' awareness of OHS, and the health services provided for workers are not maximized.

Constraints that only occur in employee groups include the scope of OHS assessment is still limited, OHS training provided to employees is still just additional information that has not been applied in their daily work, and when emergency conditions still many employees are not able to handle and act as leaders in these conditions.

Meanwhile, the obstacles that only occur in the TAD group include workers feeling that unit management only carries out OHS planning as a formality to fulfill regulations, which cannot minimize the hazards that occur and the training obtained by workers has not gone well.

The first obstacle at PT PLN UID JAYA is that most employees have not been able to carry out their duties and the OHS training provided is still informative without being implemented in the work routine. Although the

company has provided regular and annual training opportunities, there are still employees who are reluctant or take training outside their field. Conditional training is sometimes only provided to selected employees, but the parameters of the problem involve a lack of updating of training materials by the OHS department, a lack of instructor competence, and a lack of employee seriousness in attending training, resulting in suboptimal training. A short-term fix to the main problem involves a policy of requiring employees to attend training appropriate to the field of work, improving the quality of performance while waiting for their turn for regular DIKLAT. Previous studies highlighted that training can be a source of motivation and satisfaction, with adequate training plans and schedules building respect for safety rules. Other improvements include the updating of materials by the OHS department to match current conditions, and the appointment of appropriate instructors to improve the effectiveness of training. The appointment of trainers should be based on qualified qualifications for each subject to achieve developmental objectives (Hasibuan, 2003). Hasibuan emphasizes that the appointment of instructors should be based on objective competence, both in practical and theoretical terms, and should not be based on friendship or kinship. He also added that the curriculum should be systematically structured with clear lesson schedules, teaching methods, assessment systems, and optimal developmental objectives to support the achievement of goals.

The second problem is related to the lack of optimal discussion activities in the implementation of OSH in the company. The OSH month program held annually has not had sufficient positive impact due to the lack of obligation for participants to attend, so it is considered a mere formality. To improve this, strict consequences are needed for participants who do not attend and improvements in communication patterns to make the program more useful. OHS policies that are easy to understand can increase employee participation in programs organized by management. By socializing OHS policies using language that is easily understood by workers, this can make it easier for them to implement the policy (Christina, et al, 2012).

The third problem is related to the OHS information received by employees, which has not brought about changes in the way they carry out their duties. Although the safety quotes program is run every day, obstacles arise due to the lack of consistency in disseminating safety quotes by structural officials at the middle level, so that most employees are not reached by this program. From the employees' perspective, the program has not provided sufficient awareness impact. The solution is that companies should provide communication alternatives to disseminate OHS information that can change the way employees work in carrying out their duties. Policy makers need to evaluate the effectiveness of communication structures and processes in achieving organizational goals. This involves providing feedback to participants and ensuring the achievement of the desired work performance. Thus, communication in an organization can be dynamic and ongoing over time (Adiwibowo, 2021).

The fourth problem is the lack of understanding of employees regarding the procedures for reporting work accidents through the inspecta application in the work environment. Although the company has provided open access to reporting through the application, there are still employees who do not know or do not understand how to use it, especially among older employees who do not understand technology. For short-term improvement, it is recommended to conduct comprehensive socialization so that all employees really understand the use and purpose of the inspecta application. Similar problems related to the use of the inspecta application, which has not been maximized due to the lack of socialization to all workers. Therefore, massive socialization of the Occupational Health and Safety and Environmental monitoring application is needed to immediately improve the situation (Adiwibowo, et al, 2021).

The fifth issue relates to the company's handling of OHS, which has not achieved the desired awareness impact for employees. The approach to addressing this issue was to use the inspecta app, which monitors findings, responsible persons, and handling times. Obstacles occurred when some findings were not addressed within the deadline, due to lack of confirmation, lack of concern from the person in charge, or lack of management encouragement. Inspection application evaluation and management performance assessment can be a solution to improve the effectiveness of handling OHS issues and demonstrate leadership-level commitment to the OHS program (Supriadi, et al, 2022).

The sixth problem is related to the lack of optimal health services for workers at PT PLN UID JAYA. Although the

company has provided clinics in each work area unit and runs an annual Medical Check Up (MCU) program, there are obstacles such as lack of employee awareness of the MCU examination results and lack of follow-up to consult a doctor at the company clinic. Improvements that can be made involve improving the flow of health checks, by urging employees to report MCU results and providing direct referrals to the company clinic if needed. Evaluation and recording of results is an important step in ensuring the successful implementation of the OHS program and improving its performance (Soedirman, 2021).

The next problem is related to limiting the scope of OHS assessment only to the OHS department, resulting in other employee groups not being assessed regarding OHS. For improvement, it is suggested that the existing OHS assessment program be applied thoroughly to all departments and job levels, thereby increasing awareness and concern related to OHS throughout the company. Related to this improvement, it is emphasized that the reward system or performance appraisal can affect work productivity, and various ways of appreciation such as providing rewards or involving worker representatives in company policy meetings can increase employee motivation (Afifah, et al, 2018) dalam (Machfudiyanto, et al, 2021).

In the next problem parameter, there is an inability of most employees to handle and lead in emergency conditions in the work environment. Although each work area unit has an emergency response team, employee readiness is limited to that team. Rapid employee turnover is also an obstacle because it requires readjustment to emergency conditions in different work areas. For improvement, it is recommended to involve all employees in emergency training, not just limited to the emergency response team. It was found that a just culture can increase worker participation and involvement in safety in the work environment. Therefore, management commitment is needed in promoting a just culture, which can attract workers to be more active in improving safety in the work environment (Shirali, et al, 2016).

The last problem occurred in the TAD group, where workers felt that unit management only carried out OHS planning as a formality, unable to minimize the hazards that occurred. The readiness of unit management is characterized by job descriptions, implementation of Job Safety Analysis (JSA), Hazard Identification, Assessment and Risk Control (IBPPR), OHS RKAP, and review of SMK3 every year during the annual meeting. Constraints occur in limited budgets and lack of intensity in reviewing SMK3. Improvements can be made by optimizing OHS design and planning, completing Project Feasibility Studies (KKP), Financial Feasibility Studies (KKF), and risk assessments. In addition, including SMK3 reviews in quarterly work meetings can improve OHS management commitment. Emphasized that OHS management commitment can be seen from a written policy signed by the highest management, as evidence of their commitment to OHS. Supervision is key to assessing the effectiveness of the management function, and corrective actions can be taken after supervision to ensure organizational goals are achieved (Supriadi, et al, 2022).

The results of this study have an impact on the development of safety culture measurement models, particularly for the power industry, as there are few related studies. Many studies have been conducted on measuring the maturity level of safety culture in other industries. So it is expected that the results of this study can contribute to the development of research on safety culture in various industries in Indonesia.

5. CONCLUSION

The results of measuring the safety culture maturity level of PT PLN UID JAYA which considers psychological aspects, behavioral aspects, and situational aspects get a value of 4.35. This value places the safety culture maturity level of PT PLN UID JAYA at the proactive level, which means that the company's OHS management system has involved workers in the improvisation stage of OHS management. Worker awareness and involvement began to change the management approach to two-way communication, where management and employees look after and supervise each other. This indicates that not only management cares about safety in the company, but employees also actively provide opinions regarding safety management in the work area. Companies with an overall score in this category also show readiness in engineering and systems to make OHS a corporate culture.

Proposed improvements based on the results of the pareto analysis include requiring employees to take training opportunities provided by the company and must be in accordance with their field of work, updating training

materials with the latest conditions, appointing the right instructors as presenters, giving strict consequences to participants to attend the OHS month program and improving more appropriate communication patterns, providing other communication alternatives in disseminating OHS information that can change the way employees or workers carry out their duties, conducting socialization until all employees really understand the use of the application and the purpose of the application, Evaluate the inspecta application regarding the notification of follow-up findings and include the successful implementation of the inspecta application in the depth of the performance assessment of unit management and individual employees, improve the flow of health checks, the assessment program that has been carried out by the company is applied to all departments and levels of positions, involve all employees in emergency training, not only limited to the existing emergency response team, and optimize K3 design and planning by completing the Project Feasibility Study (KKP), Financial Feasibility Study (KKF) and risk assessment, so that all activities can be carried out in accordance with the planned budget, then include a review of SMK3 in the discussion of quarterly work meeting activities.

Suggestions for further research development can be in the form of developing more appropriate measuring instruments related to the measurement of safety culture maturity level in companies engaged in the electricity industry and taking measurements in other areas or other types of work units. on other area distribution master units or other types of work units.

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