

# Reformed Approach to Employee Health and Safety Program Improves Employee Productivity in Indonesia

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## Abstract

*Employee productivity is significant because it affects product sales, profits, and company income, ultimately impacting the company's welfare and existence. This study aimed to evaluate the implementation of the employee health and safety program at the State Electricity Company in Indonesia. Specifically, this study assessed employee productivity, determined whether the success of the employee health and safety program affects employee productivity, and established how much influence it has. The study employed a quantitative research method, with 63 employees selected as respondents. The data collection instrument used was a questionnaire. The quantitative data was analyzed using descriptive statistical methods and explanatory techniques to determine the effects between variables, employing a simple regression approach with the help of SPSS version 20. The results indicated that the implementation of the employee health and safety program was exemplary, employee productivity was good, and the successful implementation of the employee health and safety program affects employee productivity. The effect was 0.136 or 13.65%. The top three attributes affecting productivity for management factors were planning and scheduling, material availability, and material storage areas. An effect size of 13.65% is considered reasonable. The findings of this research can be used as a benchmark for other companies with regard to maximizing employee productivity.*

**Keywords:** Employee Health and Safety Program, Employee Productivity

## INTRODUCTION

The Indonesian Act No. 1 of 1970 on employee safety states that to support an increase in employee productivity, there should be protections for employees. This is also supported by Act No. 14 of 1969 on the Basic Provisions of Labor, particularly Chapter 9, which states that every employee is entitled to protection regarding safety, health, morals, and the maintenance of work morale and behaviour in accordance with human dignity and religious morals. Based on these provisions, the State Electricity Enterprise (SEE) of Palembang City implemented an employee safety and health program. However, a pre-survey observation found that employee productivity and the health and safety program at SEE Palembang City tended to be ineffective. The following evidence supports these findings.

Over the last four years, there has been a decline in the productivity of SEE employees in Palembang, Indonesia. This is evident from the generated power failing to meet targets. The average achievement is only 297.5 Megawatts (MW), or 79.5% of the stipulated 375 MW. Similarly, for the installed capacity, the target was 625 MW, but on average, only 519.25 MW, or 81.75%, was realized. Many variables affect this achievement, but the most significant one appears to be the employee health and safety program. The data shows that over the last four years, there has been an average increase in issues related to carelessness, resulting in damaged equipment by 3.23%, carelessness and negligence in carrying out work by 6.63%, violation of company rules by 2.36%, and lateness to work by 2.79%. The number of work accidents both severe and minor also tends to increase, averaging 14 cases per year. The number of sick employees remains high, with an average of 49 employees experiencing both severe and mild illnesses.

## Research Problem

This research focuses on the implementation of the employee safety and health program at the SEE in Palembang, Indonesia, and examines the current level of employee productivity. It explores whether the

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successful implementation of the safety and health program impacts employee productivity and to what extent this influence occurs.

### **Objectives of the Research**

The objectives of this research are focused on several key areas. First, it aims to uncover how the employee safety and health program is implemented at the SEE in Palembang. Additionally, the study seeks to ascertain the current productivity level of the employees at this enterprise. Furthermore, it explores whether the successful implementation of the health and safety program influences employee productivity. Finally, the research aims to determine the extent to which this successful implementation impacts overall productivity, providing valuable insights into the relationship between safety measures and employee performance.

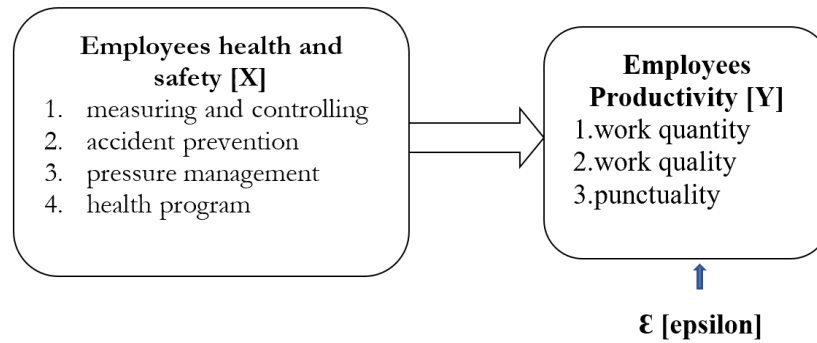
### **THEORETICAL FRAMEWORK**

Research on workplace health and safety has become increasingly crucial. Researchers like Nugraha and Yulia (1989) have extensively explored this topic, while Sayed-Yahya et al. (2023) have significantly advanced our understanding of workplace safety. Furthermore, Lestari (2019) has played a pivotal role in examining the impact of safety measures on employee well-being. Their collective contributions highlight the critical need for effective health and safety programs in organizations.

According to McCartney et al. (2019), health encompasses a structural, functional, and emotional state. This state is crucial for an individual to lead an effective life both personally and as a part of society. Health is not just the absence of illness but involves overall well-being. On the other hand, safety refers to the condition in which potential hazards are managed. These hazards could lead to physical, psychological, or material harm if not controlled. The purpose of ensuring safety is to protect the health and well-being of individuals. It also extends to preserving the health of the broader community. Therefore, both health and safety are interconnected in maintaining an effective and harmonious life.

Ridley (2003) emphasized the critical importance of employee health and safety in the workplace. He claimed that these factors are essential for ensuring security throughout the production process. By prioritizing health and safety, companies can achieve higher levels of employee work productivity. On the contrary, Shikdar and Sawaqed (2003) highlighted the challenges faced when these measures are neglected. They stated that productivity increases are impossible to achieve if accidents occur in the workplace. Harm and sickness among employees can severely disrupt the working process. These incidents not only affect individual workers but also impact the entire production flow. Therefore, maintaining a safe and healthy work environment is crucial for sustaining productivity and efficiency.

Hameed and Amjad (2009) identified several key parameters of employee productivity. According to their research, work quantity is one crucial factor in measuring productivity. This refers to the amount of work an employee completes within a given time frame. Another important parameter is work quality, which assesses the standard and accuracy of the completed tasks. Punctuality is the third parameter, highlighting the importance of timely task completion and adherence to deadlines. Together, these parameters provide a comprehensive framework for evaluating employee productivity in the workplace.



**Figure 1.** The Thought Chart of The Influence of Employees' Health and Safety Program toward Employee Productivity.

According to Jackson et al. (2009), employee health and safety can be measured using four distinct dimensions. The first dimension is measuring and controlling, which involves assessing safety risks and implementing measures to manage them effectively. This ensures that potential hazards are identified and addressed promptly. The second dimension is accident prevention, focusing on strategies to minimize the occurrence of workplace accidents. This involves creating a safe work environment through proper training and safety protocols. Pressure management is the third dimension, which addresses the importance of managing work-related stress to maintain employee well-being. The final dimension is the implementation of health programs, which promote overall health and wellness among employees. These dimensions together provide a comprehensive approach to evaluating and enhancing health and safety in the workplace.

## RESEARCH METHODOLOGY

The research method used in this study was quantitative, focusing on numerical data and statistical analysis. Consequently, the research design was structured to align with quantitative methodologies, ensuring a systematic approach to data collection and interpretation. This design choice allowed the researchers to draw precise and objective conclusions from the data gathered.

### Operational Definition

Table 1 provides a detailed overview of how the variables in this study are operationalized. Each variable is defined with specific criteria and metrics for measurement. This structured approach ensures clarity and consistency in the analysis.

**Table 1.** Operationalization of Variables.

Variable	Dimensions	Indicators
The productivity of Employees [Hameed & Amjad]	1. Work quantity	1. Work target 2. Work attainment
	2. Work quality	1. Work Quality Standard 2. The accomplishment of the standard
	3. Punctuality in work	1. Duration to finish work 2. Timely completed work
Employees Health and Safety [Jackson, Schuler and Werner]	1. Measuring and controlling	1. Monitoring and controlling unsafe work condition 2. Monitoring and controlling unsafe work action 3. Human resource or technology betterment relating to safety 4. Safety tools and health service availability 5. Reward and punishment relating to safety and health.
	2. Accident prevention	1. Preparation to work 2. Availability of means to prevent disease 3. The use of means to prevent disease 4. No dangerous chemical hazard at work
	3. Pressure management	1. Office environmental recognition training for employees 2. Safety and health training for employees 3. Discussion on health with experts
	4. Health Program	1. Free immunization for employees and family

2.The Use of available sports facilities 3.Health insurance for employees
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**Analysis Unit**

The analysis and observation units for this study focus on individuals. Specifically, the research targets employees of the SEE in Palembang.

**Population**

The research focused on the employees of the SEE in Palembang. The total population for this study was 63 employees. All 63 employees were included as respondents to ensure comprehensive coverage. By involving every employee, the study aimed to capture a complete and accurate picture of the workforce. This approach eliminates the need for sampling, as the entire population was surveyed. Therefore, this research is categorized as a population study rather than a sample study

**Data Collection Techniques**

The data collection techniques used in this study included several methods. First, questionnaires were distributed to gather information from the employees. Second, field observations were conducted to obtain direct insights into workplace conditions and practices. Additionally, document studies were performed to review relevant records and reports.

**Instrument Validity Test**

The responses to the questionnaire were based on a Likert scale. The scale was coded as follows: "Very Much Disagree" was assigned a score of 1, "Disagree" a score of 2, "Neutral" a score of 3, "Agree" a score of 4, and "Very Much Agree" a score of 5. Before distributing the questionnaire, its validity was tested using the Pearson correlation product-moment method, as recommended by Riduwan (2020). The theoretical formula used was expressed as formula 1.

$$r_{xy} = \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}} \tag{1}$$

If the calculated correlation coefficient  $r_{xy}$  is greater than the critical value from the table at a 10% significance level ( $\alpha = 0.10$ ), it indicates that there is a statistically significant relationship between the variables. This means that the null hypothesis of no correlation can be rejected, supporting the presence of a valid association. Therefore, the item in question is considered valid in the context of this analysis.

**Instrument Reliability Test**

In addition to instrument validity test, the reliability test of the instrument was also conducted. The reliability test of the instrument made use of Alfa Cronbach. Standard. The reliability was attained by comparing the value of r calculation and r table in the degree of 5% significance. With Alfa Cronbach. Standard, r calculation was represented by Alpha value. If Alpha value is more than the value of r table, it means positive. The instrument is reliable, then. See Singgih (2010). Theoretically, the calculation of reliability test was done with the formula 2.

$$r = \left( \frac{k}{k-1} \right) \left( 1 - \frac{k \sum \sigma^2 b}{\sigma^2 b} \right) \times 100\% \tag{2}$$

Notes:

- r = Instrument reliability coefficient
- k = Number of questions
- $\sum \sigma^2 b$  = Total of item variant
- $\sigma^2 b$  = Total of variant

Variant calculation [measurement] was conducted with the formula 3.

$$\sigma^2 = \frac{\sum X^2 - \frac{(\sum X)^2}{n}}{n-1} \quad 3$$

Notes:

- $\sigma^2$  = The value of variant
- X = Data values
- n = Number of respondents

The reliability degree was assessed using Cronbach's Alpha technique, with an Alpha scale ranging from 0 to 1. The specific range and interpretation are detailed in Table 2.

**Table 2.** The range for the degree of reliability.

The Value of Alpha Cronbach	The Degree of Reliability
1	2
0,00 to 0,20	Less Reliable
> 0,20 to 0,40	Somewhat Reliable
> 0,40 to 0,60	Quite Reliable
> 0,60 to 0,80	Reliable
> 0,80 to 1,00	Very Reliable

Source: Sugiyono (2010).

The result of instrument reliability test for employees' productivity indicated that all questions were very reliable when referred to the value of Alpha Cronbach which was > 0,80 to 1,00. The degree of reliability ranged from 0,704 to 0,726. Meanwhile, the results of instrument reliability test for variable employees' safety and health were from 0,676 to 0,867 which meant very reliable.

### Data Analysis Techniques

To assess the state of the employees' health and safety program and productivity at the SEE in Palembang City, a descriptive statistics analysis technique was employed. To determine whether the implementation of the health and safety program influenced productivity, an explanatory analysis using a simple regression approach was conducted with SPSS version 20. Before analyzing the data, requirements such as data normality tests and conversion of data from ordinal to interval scale were performed.

### Data Normality Test

The data normality test was conducted using the Kolmogorov-Smirnov test in SPSS. The One-Sample Kolmogorov-Smirnov Test showed a Kolmogorov-Smirnov Z value of 0.719 and an Asymp. Sig. (2-tailed) of 0.679, indicating that the data were normal. The data scale conversion from ordinal to interval for 63 respondents was also completed, with results ranging from 49.9907 to 50.0145.

The statistical hypothesis:

- Ho:  $r = 0$  : There was no positive and significant effect of the employees' health and safety program of SEE in Palembang City towards the employees' productivity.
- Ha:  $r \neq 0$  : There was a positive and significant effect employees' health and safety program of State Electricity Enterprise in Palembang city towards the employees' productivity.

The developed hypothesis, making use of correlational analysis, was meant to find out the strength, the significance, and the correlational direction between the two variables.

## RESEARCH RESULTS

### Descriptive- Statistics Analysis Technique

In order to do this analysis, the respondents' answers were processed through the following steps:

- a. The cumulative score for each item statement is the sum of the values of each item statement which is the answer of 63 respondents.
- b. With the number of 63 respondents, the highest measurement scale value was 5 [very much agree 5], while the lowest was 1 [very much disagree 1]. So as, the highest value of cumulative number was  $63 \times 5 = 315$ , and the lowest value of the cumulative number was  $63 \times 1 = 63$ .
- c. The maximum and minimum score range is  $315 - 63 = 252$ . Thus, the score range for each category was  $252 : 5 = 50,4 = 50$  as shown in the table 3.

**Table 3.** Assessment range score by category.

No	Score Range	Category
1	267 – 315	Very Good
2	216 – 266	Good
3	165 – 215	Sufficient
4	114 – 164	Less Good
5	63 – 113	Not Good

### Employee Productivity

The first variable analyzed was employee productivity. According to Hameed & Amjad's theory, this variable includes three dimensions. These dimensions are work quantity, work quality, and punctuality in work. Work quantity refers to the amount of work completed by an employee. Work quality measures the accuracy and effectiveness of the completed tasks.

The results by indicator are as follows:

1. Work quantity consists of two indicators: work target and work target attainment.
2. Work quality also has two indicators: work quality standard and the accomplishment of the standard.
3. Punctuality in work includes two indicators as well: duration to finish work and timely completed work.

The data are presented in Table 4.

**Table 4.** Description of employee productivity of SEE of Palembang City by indicator.

No	The Dimensions	The indicators	The Score	Rating by Range	Category
1	Work Quantity	Work Target	216	216-266	Good
		Work Target Attainment	250	216-266	Good
2	Work Quality	Work Quality Standard	252	216-266	Good
		The accomplishment of the standard	213	165-215	Sufficient
3	Punctuality in Work	Duration to finish work	239	216- 266	Good
		Timely completed work	243	216-266	Good
Average score for Employees' Productivity			236	216-266	Good

Table 4 above indicated that the variable of employees' productivity of SEE in Palembang City was in good category. The total score was 236. and it was in the 216-266 category. Below is the description of it by each indicator.

Regarding work target, most of the respondents, 84,26 % [from 32,40% who answered very much agree and 51,86 who responded agree to work target setting], admitted that they had work target to get in doing their jobs. The score of this indicator has been 216 and is categorized into good. It is common, moreover, working in very technical State enterprise like this. Andri Marfiana (2017) claimed that target setting and target clarity had a positive effect on employee commitment to achieving goals. The example of setting work target in SEE is the standard duration of time needed to overcome or dealing with sudden power outages due to, for example, lightning.

The second indicator of the dimension of work quantity that was analyzed was the work target attainment. The setting of work target is not for nothing. It encourages employees to work hard and properly. The answers of respondents when asked on this are as follows. From 63 respondent, as many as 40 out of it or 87 % claimed that they could get the set work target. The category is good because the score lies between 216-266. It is reasonable because working atmosphere in State enterprise is very much different from one of

bureaucracy [common governmental offices]. The characteristics of working condition at SEE have been conducive to work target attainment, such as, the availability of clear and followed SOPs, good and standardized working facilities, strict sanctions, adequate welfare, and others. Some target attainments are, like, distribution, construction of power plants. Maintenance work and network expansion without terminating the distribution of electric power in accordance with the SOP and carrying out management of equipment and other work facilities related to the field of duty. Guest and Guest [23] stated that knowing the achievement of employee performance was an important thing that must be done by a company in order to maintain the effectiveness of the company's performance. For employees, knowing personal performance achievements could be used as a reference to see their own quality.

Work quality standards, as another indicator of the dimension of work quality, have also been set for employees to obtain in this State electricity company. As many as 87.7% of respondents said so. The competency standards of electricity engineering, division of distribution, maintenance sub-division, for example, is planning and preparing maintenance of low voltage ducts. The performance criteria are, like, communication procedures are understood and implemented according to SOP. Work plans are prepared so that work can be implemented according to SOP. Work tools, occupational health and safety tools and auxiliary tools are prepared accordingly SOP in good working condition and safe. By the score, this indicator can be grouped into good category because the score is 252.

Next is the accomplishment of the work standard. Referring to the score of this indicator which is 213, it indicates that this score goes to sufficient category. It means the set standard is accomplishable, although it is not very good. The percentage of respondents who claimed that they completed work in accordance with predetermined quality standards was 93,01 %. Some examples of maintaining service quality in the work are: expansion of the electricity network without blackouts, implementation of distribution network maintenance and repair of network disturbances while maintaining the electricity distribution system undisturbed, and field technical workers of the electricity enterprise must wear Personal Protective Equipment to protect all or part of their body against the possibility of potential hazards or work accidents. Concerning with working standard for performance, Gordon (2022) said that the performance standards are important because they provide employees with a framework of how the company expects them to work. This allows for open communication between the employer and the employee, which can help the employee understand their responsibilities. In another on line source, the goal of performance standards was to ensure that both employers and employees were on the same page regarding job expectations. That's why managers needed to provide their new employees with the performance standards during the first month of employment. Performance standards also equipped employees with specific performance outlooks for every skill. Furthermore, performance standards foster communication between managers/employers and workers. When it comes to evaluations, managers use performance standards as a guideline. Then, they compare employee performance with this fixed pattern. This way, there's an equal evaluation for all employees in the same position.

The last dimension of employee productivity is punctuality in work. This parameter consists of 2 indicators, namely duration to finish the work and timely completed work. The analysis will be started with duration to finish the work, the first indicator.

Eighty-six percent of employees, or 49 respondents, agreed that work should be completed within a certain duration, resulting in a total score of 239 for this indicator, placing it in the 'good' category. Meanwhile, 14 respondents expressed neutrality, disagreement, or strong disagreement, indicating a lack of support for the statement. This is understandable, as many tasks performed by electricity company employees, such as transmission engineering, substation maintenance, distribution maintenance, and power generation maintenance, are field-based. Factors like weather conditions, especially during the rainy season, and the remote locations of substations can create challenges that make it difficult to accurately estimate completion times. Table 5 presents the average score for each dimension of the employee productivity variable.

**Table 5.** Average score of employee productivity variable by dimension.

No	Dimensions	The Average Score	Rating by Range	Category
1	Work Quantity	233	216-266	Good
2	Work Quality	233	216-266	Good
3	Punctuality in Work	241	216- 266	Good

Table 5 shows that the average score for the employee productivity variable is 236, which falls within the 216-266 range and classifies it as 'good.' The next variable under discussion is the employee health and safety program. According to the theory by Jackson, Schuler, and Werner, this variable consists of four dimensions: measuring and controlling, accident prevention, pressure management, and health. Each dimension has specific indicators outlined in Table 6. The measuring and controlling dimension focus on tracking safety metrics and ensuring compliance. Accident prevention involves strategies to minimize workplace hazards and risks. Pressure management aims to help employees handle stress effectively to maintain productivity. The health dimension emphasizes promoting overall well-being and preventing illness among employees. By addressing these dimensions, the program seeks to create a safer and healthier work environment. This comprehensive approach underscores the importance of integrating health and safety measures into the company's operations.

Regarding the first indicator of the second dimension, when a statement was proposed to the respondents that there was monitoring and control over unsafe working condition, 39 out of 63 respondents gave a backup [by choosing very much agree and agree answers]. In other words, most of the respondents, 77.45%, felt the working condition was safe because things that are considered unsafe are always monitored and controlled. The average score of this indicator is 213 and grouped in **good category**. The safe working condition has been a must. Examples of unsafe working condition that must be monitored and controlled, like, stung electricity and fire if there is a spark, cable untidy due to electricity theft, and short and long circuits cause spark. The UN special rapporteur on human rights and hazardous substances and wastes wrote that the UN Guiding number 8 to 11 are set on the interlinkages between the human right to safe and healthy work and workers' right to information, participation and assembly. He stresses that "Every worker has the right to know, including to know the implications of exposure, the actions being taken to prevent exposure and their rights in relation to such exposure." He adds that, "workers find strength in numbers. The right to safe and healthy work is inseparable from the freedom of association, the right to organize and the right to collective bargaining."

**Table 6.** Description of employee's health and safety program of SEE of Palembang city.

No	The Dimensions	The indicators	The Score	Rating by Range	Category
1	Measuring and controlling	Monitoring and controlling unsafe work condition	213	165-215	Sufficient
		Monitoring and controlling unsafe work action	255	216- 266	Good
		Human resource or technology betterment relating to safety	255	216- 266	Good
		Safety tools and health service availability	224	165-215	Sufficient
		Reward and punishment relating to safety and health	224	165-215	Sufficient
2	Accident prevention	Preparation to work	255	216- 266	Good
		Availability of means to prevent disease	248	216- 266	Good
		The use of means to prevent disease	252	216-266	Good
		No dangerous chemical hazard at work	272	267 – 315	Very Good
3	Pressure management	Office environmental recognition training for employees	286	267 – 315	Very Good
		Safety and health training for employees	286	267 – 315	Very Good
4	Employee Health	Discussion on health with experts	257	216-266	Good
		Free immunization for employees and family	276	216-266	Good
		The Use of available sports facilities	257	216-266	Good



Health insurance for employees	250	114- 164	Good
Average score for Employees' Health and Safety	257	216-266	Good

The second indicator is relating to monitoring and controlling unsafe work action. On this, 93,33 % or 55 respondents agree that it is controllable. It is categorized into good because the score is 255. Before doing their jobs, even in many trainings, the employees are reminded again and again on working professionally. Resti et al. (2021) reported working at the State Electricity Company is full of risks. According to them, by the percentage, 62% is extreme risk, 12% is high risk, 13% is medium risk, and another 13% is low risk. Due to the risks, the employees must focus in doing their works and act properly. Examples of unsafe work action that ought to be monitored and controlled are working without standardized protective gear and having fun while working. In the works of Hughes and Ferrett (2007), it was written that the UK Health and Safety Executive believed that its mission was to ensure that the risks to health and safety of workers were properly controlled. In terms of corporate responsibility, they were working to encourage organizations to improve management systems to reduce injuries and ill health, demonstrate the importance of health and safety issues at board level, and report publicly on health and safety issues within their organization, including their performance against targets. At international level, health and safety at work remains the most effective tool for those working to fit international health and safety standards to local needs and practice.

The following aspect of employee health and safety is human resource or technology betterment relating to safety. The average score of this one is also 255 and is grouped into good category as well. As many as 55 or 88.00 % respondents admitted that they often got some trainings both on technical things, like, electrical expertise training and certification and also on management, such as, conflict and stress management. In terms of technology, it has also been improved. By this, working is easier and safer. To support data communication systems between substations, the State Electricity Company built the High-availability Seamless Redundancy (HSR) protocol communication network for the first time in Indonesia. Application of the most advanced Adaptive Defense Scheme (ADS) technology to automatically balance the load between generation supply and load in an area. In order to support the ADS technology, a reliable telecommunications system is needed with the ability to switch networks without interruption in the event of a telecommunications failure.

The fourth indicator of the second variable, employee health and safety, shows positive support where its average score is 224 and included in good classification. There are 40 or 75.00 % respondents that gave very much agree and agree answers to the statement that say, safety tools and health service are available for employees. The safety tools, in Nadia and Fino (2019), among others, are face shield, Masker, hearing protection, safety vest, glove for protection from high voltage electricity, full body harness belt, drowning protective equipment, standardized electrical technical tools, fire extinguishers, hazard symbols, work helmets, fire alarms, evacuation plans, and safety shoes. This company makes also health facilities available for its employees and their family members, such as, primary health clinic, health services to referral specialist doctors as well as referral hospitals for inpatient care, and online system health maintenance program to record employee health history. With this system, this SEE can access real time health data of employees, employees' families, and retirees.

The last indicator of measuring and controlling dimension of employee health and safety program is reward and punishment relating to safety and health. Just like the fourth indicator above, this indicator has also been grouped into good category since the average score of it is 224. In terms of the respondents, 39 out of 63 or 74.10% subjects supported the statement proposed. Reward and punishment approach applies in many companies or institutions. So, this, system is a common practice. Reward and punishment give some benefits. Inda et al. (2021) claimed that several rewards and punishment types contributed to achievement and discipline. The types of rewards that contributed effectively to achievement were praise, respect and material prizes, as well as a sign of appreciation. In contrast, types of punishments that affected the discipline were physical punishment and inconvenient punishment. In conclusion, the effects of reward and punishment on achievement and discipline, among others, increased enthusiasm, motivated to maintain achievement, and

made more discipline. The result of a research of Sigit (2021) proved that reward and punishment approach positively and significantly influenced the employee performance of State Electricity Company UP3 Bogor.

The second dimension of employee health and safety program of State Electricity Company is accident prevention. This dimension has 4 indicators, namely: preparation to work, availability of means to prevent disease, the use of means to prevent disease, and no dangerous chemical hazard at work. The indicator is going to be discussed one after another as follows.

The first indicator is preparation to work. 85.48% or 49 respondents replied that they had preparation to their works. The average score of this indicator is 255 and has been grouped into good category. Good category indicates that preparation to work is well done. In electricity works, preparing to work can be in forms of checking tools to be used, current supply system to turn on the electrical system, inputs, switches or sensors to detect system work, whether active or inactive, whether the output component functions or does not function as a medium to activate the electrical system, and so on. The benefits of preparing to work are readiness for all kinds of circumstances, discipline, very large potential for success, being calm and unhurried in work, and problem minimization.

The next indicator is availability of means to prevent disease. When the respondents were questioned whether the means to prevent diseases available, 51 or 88.70% of them answered positively. This indicator is classified good because the average score is 248. The management of the company provides various facilities spreading across several places in the city of Palembang. The various facilities for being healthy [avoiding disease] are sports facilities, such as badminton and tennis courts, table tennis, volleyball and soccer fields, availability of masks to prevent disease transmission, as well as recreational games, such as bridge, cards, gymnastic facilities, and others.

The third point has been the use of means to prevent disease. There were 50 respondents make use of the means to prevent disease. The most frequently used facilities are tennis and foot ball courts. They are the male employees' favorite. Meanwhile, female employees most like to use gymnastic facilities, table tennis, and recreational games. Some employees rarely and very rarely use the facility because they are field operations employees. But at least, most or 87.00% of employees use several facilities to avoid illness and keep themselves healthy. The use of means to prevent disease is in good category, since the score is 252.

The last indicator of accident prevention is no dangerous chemical hazard at work. The no hazard of hazardous chemicals at workplace refers to the spilled chemicals. It is almost certain that every company has a warehouse to store leftover or unused materials. Often, some materials, especially in the form of liquids, due to employee negligence, are spilled. It can happen in every company. But for the State Electricity enterprise, this is unlikely to happen because the materials used are not chemicals. Moreover, most of the field employees are always in the field as their workplace. This fact is supported by data where 58 or 99 % of respondents stated that there were no chemicals and the spills in the workplace that would endanger employees. The average score of this indicator is 272 and included in very good category.

Pressure management has been the third dimension of employee health and safety program. This parameter owns 3 indicators. They are office environmental recognition training for employees, safety and health training for employees, and discussion on health with experts. The analysis will be carried out one by one as follows.

Office environmental recognition training for employees means that new employees and old employees who are transferred to a new environment are invited to tour the workplace while being given an explanation about the office and their work environment, so they know them well. It is positive and beneficial. Zhenjing (2022) said positive work environment had the power to improve employee performance. Similarly, a positive work environment also improved the employee commitment level and achievement-striving ability significantly. Both employee commitment and achievement-striving ability also improved employee performance. The evidence proves that all respondents, 63 or 100 % of them supported the statement saying office environmental recognition training for employees was there. The average score is 286 and classified into very good category.

Relating to safety and health training for employees, just like the previous indicator, this one is included in the very good category, too. The average score is 286. It means all or 100 percent respondents joint safety and health training for employees. This training includes codes of conduct in certain situations, ways to use safety equipment, danger signs, first aid in accidents, simple ways to help employees who are sick before being taken to the hospital, and so on. So, this training is very important. Naturally, all employees are required to take part and they all participate.

Finally, it comes to the last indicator of pressure management which is discussion on health with experts. Data indicate that most of respondents, 53 people or 91 %, denote that they went to see doctors recommended by the company to talk about their health condition and/or to get treatment, either general practitioners or specialist ones. Some of the SEE employees have permanent employee status, some others are casual employees. The average score of this indicator has been 257 and in the good category.

Another part of the employee health and safety program is employee health. It is the last dimension of the employee health and safety program variable. Employee health dimension possess 3 indicators, they are free immunization for employees and family, the use of available sports facilities, and health insurance for employees. The analysis of each indicator is as follows.

One of the efforts to prevent disease is by immunizing employees, of course, including their family members. When the employee respondents were asked whether they got immunization and it was for free, 99 % or 62 people gave positive answers by choosing very much agree and agree. This service has been urgent, especially for babies, kids, vulnerable aging people, during a pandemic. As previously stated, the State Electricity Company owns a health clinic and cooperates with several hospitals and referred practicing doctors. The average score of this indicator is 276 and grouped into good category.

Besides health facilities, this electricity company also provides sports services. They are, such as badminton and tennis courts, table tennis, volley ball and soccer fields, bowling alley, as well as recreational games, such as bridge, cards, gymnastic facilities, and others. Unfortunately, not all employees can and often use this facility. From 63 respondents, only 53 or 90 % of them admitted that the facility did exist and they could make use of it. This parameter is included in the good category because the average score is 257.

Still dealing with the health of employees, the last indicator of the dimension of employee health is employee health insurance. In fact, although not many, there are also employees of this electricity company whose employment status is not 'all in'. It is proved from 63 employees, only 52 or 90 % of whom are provided with health insurance, namely permanent employees. This last indicator of the last dimension of employee health and safety program is included in good category as well. The recapitulation of scores per dimension and the average score of dimensions for employee health and safety variable, see table 7.

**Table 7.** Average score of employee's health and safety program of SEE of Palembang city by dimension.

No	The Dimensions	The Score	Rating by Range	Category
1	Measuring and controlling	234	216- 266	Good
2	Accident prevention	257	216- 266	Good
3	Pressure management	276	267 – 315	Very Good
4	Employee Health	261	216- 266	Good
	Average score for employee health and safety	257	216- 266	Good

Table 7 indicates that the employee health and safety variable is classified as 'good,' with an average score of 257, which falls within the 216-266 range. According to Hameed and Amjad's theory on descriptive statistics analysis, employee productivity is rated as good. Similarly, based on Jackson, Schuler, and Werner's theory, the employee health and safety variable are also considered good. Jackson, Schuler, and Werner measured employee health and safety using four dimensions: measuring and controlling, accident prevention, pressure management, and health programs.

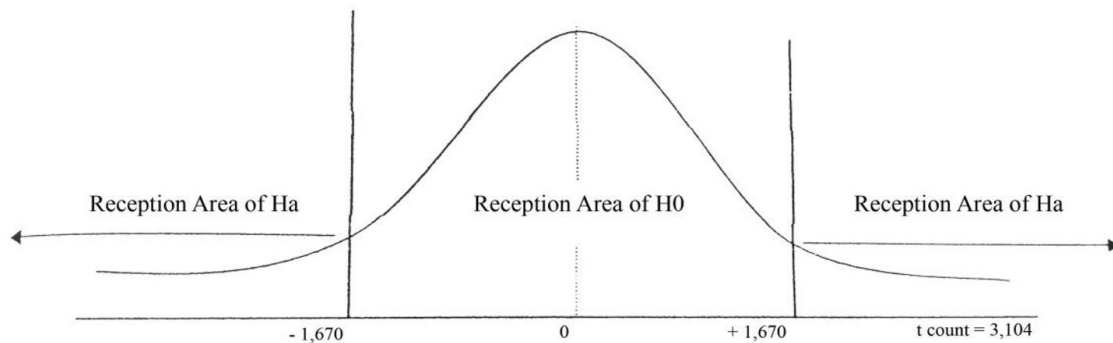
In conclusion, both the employees' productivity and the Employee Health and Safety Program at SEE in Palembang City were rated as good. To further enhance employee productivity, the health and safety program should be reformed by more rigorously identifying unsafe work conditions, improving safety tools and

technology, applying a reward and punishment approach to health and safety, conducting routine medical check-ups, and managing hazardous chemicals more effectively in the workplace.

**Explanative Analysis Technique by Making Use of Simple Regression Approach by Means of SPSS**

Simple regression test showed the correlation score [r] was 0.369. This figure indicated that the correlation between employees 'Health and Safety Program and employees' productivity of SEE of Palembang City was weak because the value of r lies between 0.201 - 0.400. Thus, it could be interpreted the influence of employees 'Health and Safety Program towards employees' productivity of SEE of Palembang City was small [weak]. However, the r value [0,369] was positive and unidirectional. This meant that the better employees 'Health and Safety Program, the better the employees' productivity of SEE of Palembang City would be.

Furthermore, simple regression test result showed that the value of t count amounted to 3.104. While the value of t table - with degree of freedom [df]  $N - 2$  [ $63 - 2$ ] = 61 with 95% degree of confidence [significance 5%] - was 1,670. So, the value of t count was more [greater] than the value t table [= 3.104 > 1.670]. With this indicator, it could be concluded that Ho hypothesis that said there was no a positive and significant effect of Employee's Health and Safety Program towards Employees' Productivity was rejected. While, Ha hypothesis that said there was a positive and significant effect Employee's Health and Safety Towards Employees' Productivity was accepted. In its relation to the degree of significance, the result can be seen in the Figure 2.



**Figure 1.** Curve of The Degree of Hypothesis Significance of Employees' Health and Safety and Employees' Productivity.

From the curve above, it could be drawn a conclusion that - because t count > t table on the degree of confidence of 95%, then Ha was accepted - there was a positive and significant influence of Employee's Health and Safety Program towards Employees' Productivity. In addition, it could be found out that the value of regression coefficient was 0,369. The +0,369 of regression coefficient value implied that health and safety program positively influenced the employees' productivity of SEE of Palembang city. With that weak influence and r<sup>2</sup> value [r square] of 0,136 or 13,6%, it could be said that the influence of health and safety program towards the employees' productivity of SEE of Palembang city was only 13,6%. While another 86,4% was affected by other factors which were not studied which is called epsilon [E]. Theoretically, some other factors influencing employee productivity are: inexperience of workforce, poor communication and coordination between the parties involved, poor relations between workers and management team, delays in payments by owners, time schedule abuse, reward, low labor wages, contractors' financial conditions, poor site management, frequent change of orders [37], management, technology, labor, and external. For management factors, the top three attributes that affect productivity are planning and scheduling, material availability, and material storage areas [38], and also factors related to financial, materials, equipment, as well as labor, and also promotional opportunities, remuneration, and training and career development [39]. For the epsilon [E] as many as those, the effect as much as 13.65% is reasonable.

## CONCLUSIONS

The Employees' Health and Safety at SEE in Palembang City was rated as good, with a score of 257. Similarly, the Employees' Productivity was also rated as good, with a score of 236. There was a positive and significant influence of the health and safety program on employees' productivity, contributing to 13.6% of the productivity improvement.

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