

ANALYSIS OF THE INFLUENCE OF OCCUPATIONAL SAFETY POLICY ON WORKER INJURY RATE

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Abstract. *The Impact of Occupational Safety Policies on Worker Injuries is the guiding principle for this research. There were a total of 38 corefindens used in this quantitative study, which also included descriptive analysis. The results of the ANOVA test showed that the Occupational Safety Policy has a significant impact on the Worker Injury Rate, with a significance level of 0.022 compared to α (0.05). As a result, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_a) was accepted. Variables in Occupational Safety Policies and Their Effect on Worker Injuries.*

Keywords: policy; safety; injury; employee

I. INTRODUCTION

The number of work accidents in Indonesia in the Southeast Asian region is among the second highest. The Ministry of Transportation in 2010 recorded 86,693 cases of work accidents in Indonesia, the construction sector (31.9%), the manufacturing sector (31.6%), the transportation sector (9.3%), the forestry sector (3.6%), the mining sector (2.6%), and other sectors (20.0%) (Mardison & Sariah, 2017). Employment recorded a relatively high number of work accidents which was 31.9% of the total accidents, falls, bumps (12%), and hit (9%) were the most accidents of construction workers (Jamsostek, 2011). Based on the results of research by Gebrekiros G, Abera K, Dessalegn A (2015) in Ethiopia, it shows that independent factors of work accidents are monthly salary, additional duties, occupational safety and health training, regular work supervision, use of personal protective equipment and work stress (Gebremichael & Kumie, 2015). The number of work accidents based on data from the Social Security Administration Agency (BPJS) of Manpower, in 2011 recorded an increase in work accidents from 2017 of 123,041, a drastic increase in 2018 of 173,105 cases of work accidents. According to the ILO, there were 13,444 cases in Indonesia from 2005 to 2015, of which 30.1% occurred in the construction sector.[1]. In order to thrive in today's cutthroat business environment, organizations rely heavily on their human resources to help them reach their objectives, create high-quality goods, and stay in business. Since the development of service quality can only be achieved with the support of quality human resources, human resource management plays a crucial role in the process of organizational development in organizations of all sizes (Tangkilisan, 2005). Because a lack of quality in resources can

impede a company's growth, it's important to strike a balance between the quantity and quality of human resources. Humans are also the source of an organization that cannot be replaced by any technology because humans play a role in regulating, using, and maintaining all forms of technology, facilities, and facilities, in a company. Human resources as a workforce are certainly inseparable from the issue of occupational safety and occupational health during work, maintaining all forms of technology, facilities, and facilities, in a company. This is as a result of the disruption of sophisticated equipment and machinery that increases the risk of work accidents and disruption of employees' occupational health.[2]

However, reality shows that performance problems are also an important problem for companies, especially in facing increasingly fierce competition in this era of globalization. To improve the company's performance is not only by working hard, but also. with smart work. The level of performance can be measured from the ratio of production output divided by the input of production materials. This ratio is a performance index. This ratio to compare a more productive part of the previous state can be seen from its performance index. The high and low level of performance is a measure of the success of an employee's performance. If the performance is high or increasing, the company can be said to be successful and vice versa, if the performance is less or decreasing, it is said to be less or even not good. Companies that value employee performance will always keep an eye on K3 and other elements that might influence employee performance on the job. Occupational safety and health is a system that aims to prevent the possibility of accidents caused by work activities and also the prevention of diseases caused by work relationships in the work environment of employees. K3 must be managed properly

to avoid problems in the future, such as dissatisfaction from workers to lawsuits for ignoring K3 factors. Occupational Safety and Health (K3) is the most important part of a construction project activity, which can be a problem that attracts a lot of attention because it covers various things, including in terms of humanity, costs, economic benefits, and legal aspects that must be accounted for in order to maintain the image of the organization or company itself.[3]

Efforts that can be made to overcome the problem are efforts to overcome occupational safety is very important to prevent accidents and injuries in the workplace, as well as to ensure the physical and mental well-being of workers. Here are some steps and strategies that companies can implement to improve occupational safety: Risk Identification and Evaluation, Risk Assessment: Periodically identify and evaluate potential hazards in the workplace, such as physical, chemical, or ergonomic hazards. This includes any risks that could cause an accident or injury. Work Process Observation: Understand operational processes in the workplace to identify accident-prone points. Occupational Safety Training, Periodic Training: Provide regular safety training to all employees regarding safety procedures, use of personal protective equipment (PPE), and emergency response.

Emergency Simulation: Conduct regular fire, evacuation, or work accident simulations to train workers' readiness to deal with emergency situations. Implementation of Safety Standards, Compliance with Regulations: Ensuring that companies comply with occupational safety regulations and standards set by governments or related organizations (e.g., the Occupational Safety and Health Administration/ OSHA or the Ministry of Labor). Standard Work Procedures (SOPs): Develop and implement SOPs that describe safe work measures for each high-risk task. Provision of Personal Protective Equipment (PPE), Use of Appropriate PPE: Ensure all workers use the right PPE, such as helmets, gloves, safety shoes, protective goggles, masks, and ear protection. PPE maintenance: Perform regular inspection and maintenance of PPE to ensure that the tool is functioning properly and is not damaged. Creating a Safe, Ergonomic Workplace Design: Implementing an ergonomic workplace design to reduce the risk of injury due to incorrect movement or work position. Environmental Control: Ensuring workplaces are well ventilated, adequately lit, and comfortable temperatures, as well as eliminating potential physical hazards such as slippery floors or unsafe equipment. Equipment Inspection and Maintenance, Regular Inspections: Conduct regular inspections of equipment to ensure everything is in good working order and safe to use. Repair and Replacement: Immediately carry out repairs or replacement of damaged or obsolete equipment to prevent accidents. Occupational Safety Culture, Increased Awareness: Building a work culture where safety is a shared responsibility. Workers should be encouraged to report potential hazards and adhere to safety procedures. Open Communication: Encourage open dialogue between management and workers regarding occupational safety. All parties must be involved in the discussion to find solutions to safety issues. Supervision and Corrective Action, Strict

Supervision: Regularly supervise the work process to ensure compliance with safety standards.

Corrective Action: When a safety breach or accident incident occurs, immediately investigate and implement corrective action to prevent similar incidents in the future. Mental and Physical Well-being of Workers, Health and Safety Programs: Provides health programs such as periodic health check-ups, mental counseling, and physical well-being programs to maintain the physical and mental health of workers. Stress Management: Providing support for managing work stress, for example through relaxation programs or more flexible work scheduling. Incident Reporting and Investigation, Incident Reporting System: Implement a system that makes it easier for workers to report incidents or unsafe conditions in the workplace. Accident Investigation: Any accident or near-accident must be investigated to understand the cause and prevent it in the future. Safety Promotion and Incentives, Safety Campaigns: Holding safety campaigns or competitions to raise awareness and compliance with occupational safety protocols. Safety Incentives: Provide incentives to employees or teams who successfully keep the work environment safe and accident-free. By implementing these measures, companies can create a safer work environment, increase productivity, and minimize the risk of injury or accidents. Occupational safety must be a top priority in every business activity to protect valuable human resources

Analysis of the Impact of Occupational Safety Policy on Worker Injury Rates is one of several related research that have been carried out in the past. According to the study's findings, the D.I. Gumbasa Dam Rehabilitation project in Sigi Regency experienced a marked improvement in worker performance after implementing occupational health and safety (K3). Improving occupational safety and health will lead to higher performance from workers on the D.I. Gumbasa Regency Dam Rehabilitation project, one of several elements that affect performance evaluations. Sigi. The dominant factor that impacts and affects worker performance based on the variables studied is occupational safety [4] that later another study made it clear that the effective implementation of OSH not only meets ethical standards, but also improves organizational productivity and employee well-being. Therefore, this article provides a basis for a deeper understanding of the importance of implementing OSH in the workplace and the role of employees and management in achieving long-term success in terms of occupational safety and health.[5] then the factors that cause work accidents in workers consist of internal and external factors, external factors are from social environment factors, and internal factors such as human error (fault of person), unsafe act or condition (unsafe act or condition) that can cause accidents (accidents), and injuries (injuries), and death (Fatality). Most accidents occur as a result of unsafe actions and unsafe conditions, because all hazards in construction workplaces cannot be eliminated, can only be identified and prevented, such as the theory of the causes of accidents and human error, the theory that provides an overview of why work accidents occur.[1] then the results of other studies also explained that the recommended risk control is the provision of sanctions, making checklists, maintaining tools, replacing tools

if damaged, changing methods, and providing training. The potential percentage of hazardous activities expected to decrease in silo areas disappeared very high risk, lowering the high and normal risk percentages to 8.82%, and 23.53%. On the other hand, The potential percentage of hazardous activities that are expected to decrease in raw material warehouses disappears from very high risk, lowering the high and normal risk percentages to 15.79% and 21.05%. [6] The results of the study show that safety culture, Workplace safety and health are greatly improved when employees actively participate in safety measures and adhere to safety regulations. Compliance with safety protocols and engagement in safety activities are likewise greatly impacted by safety culture. The connection between safety culture and occupational safety and health is moderated by safety involvement and compliance with safety protocols. Implications for nurse safety, training, and education are substantial, and this model of safety culture offers a method based on research for nursing managers and practitioners. Keywords: safety culture, safety compliance, safety participation, occupational health safety. [7]

Hypothesis

H0: Occupational Safety Policy Has No Significant Effect on Worker Injury Rate

Ha: Occupational Safety Policy has a significant influence on the Injury Rate of Workers

II. RESEARCH METHODS

Qualitative and quantitative approaches are utilized in the investigation. Of those who took part, about 38 were respondents. Respondent employees served as the basis for the sample. A questionnaire with a Likert scale is utilized to gather the data. In 2014, Sugiyono Exams that rely on surveys make use of this scale. Volume and area are quantified using entity response. The distribution type determines the data type. [8]

III. RESULT AND DISCUSSION

Regression Test

The following table can be used to answer the next hypothesis, which is how the Analysis of the Influence of Occupational Safety Policy on the Injury Rate of Workers interacts with one another (Test F) :

Table 1. Annova

ANOVA ^b						
Model		Sum of Squares	Df	Mean Square	F	S
1	Regression	,951	2	,476	,197	,0
	Residual	82,238	36	2,419		
	Total	83,189	38			

This section displays the results of the analysis of variance (ANOVA). The obtained results show that the

Influence of Occupational Safety Policy on the Injury Rate of Workers has a significant simultaneous influence, with a value of F= 0.197 and a level of prolignibility of sig. 0.022. This is due to the fact that the significance of alpha (0.05) is significantly smaller than 0.05, leading to the rejection of Ho and acceptance of Ha. Researchers also hope to lower the injury rate of workers by addressing the elements that are thought to impact it. For a definitive answer, we can use the following information gleaned from SPSS Version 18.00's multiple regression analysis :

Table 2. Information gleaned from SPSS Version 18.00's multiple regression analysis

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,702	9,445		,392	,698
	Y	,236	,078	,078	,459	,049

In the section on the Influence of Occupational Safety Policy, the coefficients test yielded the following values: a = 3.702, B = 0.236, and t = 0.459, with a significance level of 0.049. The following equation is derived from the regression calculation based on the coefficients table: The equation is X = 3,702 + 0,236Y. In closing: In the absence of an improvement in occupational safety legislation, the occupational injury rate is 3,702, according to a constant of 3,702. The relationship between the Occupational Safety Policy Influence and Occupational Injury can be described by a regression coefficient of 0.236, which means that a rise in the former will lead to a 0.236 increase in the latter. When the free variable (X) is increased or decreased, the bound variable (Y) will also be increased or decreased; this is the direction of the relationship represented by the plus sign. That is to say, a change in the rate of worker injuries as a result of changes in the impact of occupational safety policy analysis.

Additionally, a regression test will be conducted to determine the significance test for the Analysis of the Influence of Occupational Safety Policy on the Injury Rate of Workers. A hypothesis test is used to carry out this regression analysis. Norm for making a decision: Ho is rejected and Ha is accepted, indicating that the influence is important, if the probability value is equal to or less than α or if (Sig < α). The null hypothesis (Ho) is accepted and the alternative hypothesis (Ha) is rejected if the probability value is more than or equal to α or if (Sig >= α), indicating that the effect is not significant. With a significant value of 0.049 compared to α (0.05), the variable Influence of Occupational Safety Policy was retrieved from the coefficients table. As a result, the null hypothesis (Ho) was rejected and the alternative hypothesis (Ha) was accepted, indicating that the Analysis of the Influence of Occupational Safety Policy on the Injury Rate of Workers had a substantial impact. Using the data from the previous study, look at how workplace safety measures affect injury rates all at once. The

variables that were examined are not the only ones that influence the Occupational Injury Rate. The resultant R Squared value lends credence to this. You can view the R-Square values in the table that follows :

Table 3. R-Square values

Model Summary^b

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,101 ^a	,0385	,125	,985	1,394

With a value of R = 0.101 and a determination coefficient (Adjusted R square) of 0.385, the results of the summary model may be seen in the table above. The Analysis of the Influence of Occupational Safety Policy on the Injury Rate of Workers has a minimal influence, as the correlation coefficient value falls within the range of 0.20-0.399. This demonstrates that the Occupational Safety Policy variable (X) influences the Occupational Injury Rate (Y) by 38.5%, whereas other factors, not considered in this study, account for the remaining 61.5%. Here is a description based on the findings of the study on the impact of occupational safety policies on worker injuries :

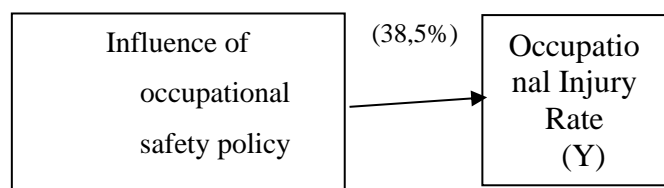


Figure 1. Multiple Regression Analysis Results Influence between 1 Independent Variable and 1 Bound Variable

The researcher uncovered a number of intriguing facts about the Occupational Injury Rate while doing the study, which she then utilized to inform her analysis of the impact of OSHA safety regulations on the OIR. Here are the study's findings: The level of worker injury is positively and significantly impacted by Occupational Safety Policy, as evidenced by a significance value of 0.022 and an influence of 38.5%. There was a rejection of Ho and acceptance of Ha according to the significance level of $\alpha (0.05)$. In other words, the amount of injuries sustained by workers is significantly affected by occupational safety policies. Based on theoretical studies and analytical calculations, it can be concluded that: Occupational Safety and Health Policy (K3) is a written statement that contains the company's vision, goals, commitments, and work programs in implementing K3. The K3 policy is signed by the entrepreneur or company management.[9] Workplace safety training is essential, occupational safety and health (OSH) is a reflection of working circumstances, all accidents are preventable, and management has a moral obligation to ensure a safe workplace. The objectives of K3 are: Achieving the highest degree of health of

the workforce, Preventing and eradicating occupational diseases and accidents, Increasing the efficiency and productivity of the workforce and Improving the quality of work life. Occupational safety indicators, including: Use of work equipment or personal protective equipment, Workload, Occupational safety regulations, Communication and support, Occupational training and safety.[10].

IV. CONCLUSIONS

The Considered in light of the findings from the aforementioned investigation of the impact of OSHA regulations on workplace injuries. The following analysis is used to draw findings in this study: The results of the ANOVA test showed that the Occupational Safety Policy has a significant impact on the Worker Injury Rate, with a cynical value of 0.022 compared to $\alpha (0.05)$. As a result, the null hypothesis (H0) was rejected and the alternative hypothesis (Ha) was accepted. Occupational safety policy factors' impact on injury rates among workers. The results showed that 38.5% of injuries occurred on the job, or 0.385 percent, whereas 61.5% of those injuries were caused by factors not examined in this study.

REFERENCES

- [1] D. N. Putri And F. Lestari, "Analisis Penyebab Kecelakaan Kerja Pada Pekerja Di Proyek Konstruksi: Literature Review," *Prepotif: Jurnal Kesehatan Masyarakat*, Vol. 7, No. 1, Pp. 444–460, 2023.
- [2] A. N. Styawati And S. Soedarmadi, "Analisis Pengaruh Keselamatan Kerja Dan Kesehatan Kerja Terhadap Kinerja Karyawan Dengan Kepuasan Kerja Sebagai Variabel Intervening (Studi Pada Karyawan Pt. Java Prima Abadi Semarang)," *Solusi*, Vol. 19, No. 2, Pp. 250–265, 2021.
- [3] K. S. Baka, T. Sukwika, And M. D. D. Maharani, "Analisis Pengaruh Keselamatan Dan Kesehatan Kerja Terhadap Kinerja Karyawan Di Pt. Virtue Dragon Nickel Industry Konawe," *Syntax Literate: Jurnal Ilmiah Indonesia*, Vol. 7, No. 11, Pp. 17877–17896, 2022.
- [4] F. C. Pamungkas, E. H. Manurung, And K. Hutagaol, "Analisis Dampak Kebijakan Keselamatan Dan Kesehatan Kerja Terhadap Tingkat Cidera Pekerja Konstruksi Pada Proyek Rehabilitasi Bendung Di Gumbasa Kab. Sigi," *Inovasi Dan Pembangunan Infrastruktur Berkelanjutan*, Vol. 9, No. 7, 2024.
- [5] A. Sarbiah, "Penerapan Pelaksanaan Keselamatan Dan Kesehatan Kerja (K3) Pada Karyawan," *Health Information: Jurnal Penelitian*, Pp. E1210–E1210, 2023.
- [6] A. Wijaya, T. W. S. Panjaitan, And H. C. Palit, "Evaluasi Kesehatan Dan Keselamatan Kerja Dengan Metode Hirarc Pada Pt. Charoen Pokphand Indonesia," *Jurnal Titra*, Vol. 3, No. 1, Pp. 29–34, 2015.

- [7] A. F. Mustikaningtiyas, “Pengaruh Budaya Keselamatan Kerja Terhadap Keselamatan Dan Kesehatan Kerja Dengan Kepatuhan Keselamatan Dan Partisipasi Keselamatan Sebagai Variabel Mediasi (Studi Di Rsud Dr Soeselo Kabupaten Tegal),” Stie Bank Bpd Jateng, 2024.
- [8] Sugiyono, *Metode Penelitian Kuantitatif Kualitatif R&B*. Bandung: Alfabet, 2012.
- [9] D. P. Maharani And A. S. Wahyuningsih, “Pengetahuan, Sikap, Kebijakan K3 Dengan Penggunaan Alat Pelindung Diri Di Bagian Ring Spinning Unit 1,” *J Health Educ*, Vol. 2, No. 1, Pp. 33–38, 2017.
- [10] H. I. D. Purba, V. I. Girsang, And S. M. Siadari, “Dampak Sosialisasi Kebijakan Keselamatan Dan Kesehatan Kerja Terhadap Pelaksanaan Keselamatan Dan Kesehatan Kerja,” *Jurnal Mutiara Kesehatan Masyarakat*, Vol. 4, No. 1, Pp. 54–67, 2019.