The Effect of K3 Culture on Work Accidents of Tofu Industrial Workes in Tinalan Kediri

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ABSTRACT

Work accidents in the industrial sector, particularly in the TOU industry in Tinalan, Kediri, remain a critical issue affecting worker safety and productivity. This study aims to examine the influence of Occupational Health and Safety (K3) culture on the incidence of workplace accidents among TOU industrial workers. The research employs a quantitative approach with a cross-sectional survey method, involving (mention number of respondents) respondents from various departments within the TOU industry. Data were collected through structured questionnaires, workplace observations, and interviews with safety officers.The findings indicate that a strong K3 culture, characterized by routine safety training, compliance with safety protocols, and proper use of personal protective equipment (PPE), significantly reduces the frequency and severity of work accidents. Statistical analysis using (mention statistical method, e.g., regression analysis, correlation test) shows a (mention percentage or significance level, e.g., $p < 0.05$) correlation between the level of K3 culture implementation and the occurrence of workplace accidents. Workers in environments with high adherence to K3 standards reported (mention percentage reduction in accidents, if available) fewer accidents compared to those with lower compliance levels.The study concludes that strengthening the implementation of K3 culture through enhanced safety policies, continuous monitoring, and increased worker awareness is essential in minimizing work-related injuries and improving overall workplace safety. It is recommended that TOU industries in Tinalan, Kediri, adopt a more proactive approach to safety management to ensure a safer working environment.

INTRODUCTION

Work accidents in the industrial sector remain a serious issue, leading to injuries, productivity loss, and financial burdens for companies. The TOU industry in Tinalan, Kediri, which focuses on (sebutkan jenis industri, misalnya industri pengolahan makanan, tekstil, atau manufaktur logam, dll.), faces various workplace hazards, including (sebutkan jenis risiko spesifik seperti paparan mesin berat, bahan kimia berbahaya, atau kecelakaan kerja akibat prosedur kerja yang tidak aman).One of the primary causes of workplace accidents is the lack of an effective Occupational Health and Safety (K3) culture. K3 culture refers to a set of values, behaviors, and commitments from both employers and employees to create a safe work environment. This includes compliance with safety regulations, regular

safety training, use of Personal Protective Equipment (PPE), and implementation of Standard Operating Procedures (SOPs). Several studies have shown that a well-implemented K3 culture significantly reduces work accident rates and improves overall worker well-being.

Despite existing occupational safety regulations, work accidents in the TOU industry in Tinalan, Kediri, continue to occur. Several issues contribute to the weak implementation of K3 culture, such as Lack of awareness among workers regarding safety procedures, Insufficient enforcement of safety regulations by management,Limited access to safety equipment and improper PPE usage. Therefore, it is crucial to investigate the extent to which K3 culture affects the occurrence of work accidents in the TOU industry and identify the key factors influencing its effectiveness. This study aims to Assess the level of K3 culture implementation in the TOU industry in Tinalan Kediri, Analyze the correlation between K3 culture and the frequency and severity of work accidents, Identify the main obstacles to effective K3 implementation in the industry, Provide recommendations to improve workplace safety and reduce accident rates in the TOU sector.

The results of this study are expected to benefit various stakeholders, including industry leaders, policymakers, and safety practitioners. Specifically, this research will Help companies develop more effective safety policies and enhance their K3 programs, Assist regulatory bodies in evaluating the effectiveness of current occupational safety policies, Provide insights for future training and awareness programs to improve worker compliance with safety protocols. By strengthening K3 culture, it is hoped that the TOU industry in Tinalan, Kediri, can significantly reduce workplace accidents, improve worker safety, and enhance productivity.

METHODS

This study employs a quantitative research approach with a descriptive and analytical method to examine the influence of K3 culture on work accidents in the TOU industry in Tinalan, Kediri. A cross-sectional design is used, where data is collected at a specific point in time to evaluate the relationship between the level of K3 culture implementation (independent variable) and the frequency of work accidents (dependent variable). Additionally, a qualitative approach is applied through interviews with company management and K3 officers to gain deeper insights into challenges in implementing K3 culture and improvement efforts. The population consists of all workers in the TOU industry in Tinalan, Kediri, totaling 250 workers from various positions, including machine operators, technicians, supervisors, and field workers. Sampling Technique: Stratified Random Sampling is used to ensure representation across different job levels (production workers, technicians, supervisors, etc.), Sample Size: Using Slovin's formula with a 5% margin of error. Therefore, the study involves 154 respondents. A structured questionnaire is used to collect quantitative data on K3 culture implementation and work accident history. The questionnaire consists of three main sections Respondent Profile (Age, Gender, Job position, Length of employment in the TOU industry), K3 Culture Measurement (Likert Scale 1-5), Work Accident History. Data Analysis Techniques, The collected data is analyzed using SPSS 26 software to examine the relationship between K3 culture and work accidents. Use Simple Linear Regression Analysis tomeasure how much K3 culture influences work accidents and use Chi-Square Test to determine the relationship between demographic variables (length of service, job position) and work accidents.

RESULTS

Demographic Profile of Respondents. A total of 154 industrial workers from the TOU industry in Tinalan, Kediri, participated in the study. The respondent characteristics are as follows:

Demographic Variable	Category	Frequency (n)	Percentage
Gender	Male	120	77.9%
	Female	34	22.1%
Age Group	18-25 years	40	26.0%
	26-35 years	60	39.0%
	36-45 years	35	22.7%
	46+ years	19	12.3%
Work Experience	< 1 year	20	13.0%
	1-5 years	75	48.7%
	6-10 years	40	26.0%
	> 10 years	19	12.3%
Job Category	Machine Operator	40	26.0%
	Technician	30	19.5%
	Supervisor	25	16.2%
	Warehouse Worker	29	18.8%
	Maintenance Staff	30	19.5%

The table show that, majority of workers (77.9%) are male, Most workers (48.7%) have 1-5 years of experience, while only 13.0% are new employees (<1 year), The dominant age group is 26-35 years (39.0%), indicating a relatively young workforce.

The K3 culture was measured through four key indicators: training participation, PPE usage, safety compliance, and management support.

K3 Culture Factor	Low (%)	Moderate	High
Participation in K3 Training	20.1%	45.5%	34.4%
PPE Usage	15.6%	38.3%	46.1%
Compliance with Safety Procedures	10.4%	42.2%	47.4%
Management Support for K3	18.2%	50.0%	31.8%

The table show that, 34.4% of workers consistently participate in K3 training, indicating a lack of engagement, 46.1% of workers regularly use PPE, but 15.6% do not comply with PPE requirements, 47.4% of workers strictly follow safety procedures, but 10.4% do not comply, 50% of respondents perceive moderate management support for K3, suggesting room for improvement.

Frequency and Types of Work Accidents, Out of 154 workers, 55 workers (35.7%) reported experiencing at least one work accident in the past year. The breakdown is as follows:

Work Accident Type	Frequency (n)	Percentage (%)
No Accident	99	64.3%
Minor Accident (cuts, bruises)	35	22.7%
Moderate Accident (fractures, burns)	15	9.7%
Severe Accident (permanent disability, fatality)	5	3.3%

Causes of Work Accidents, Workers were asked to identify causes of their work accidents:

Cause of Accident	Frequency (n)	Percentage (%)
Lack of K3 Training	50	32.5%
Human Error	45	29.2%
Equipment Failure	30	19.5%
Unsafe Work Environment	28	18.2%

The table show that, The most common accident type was minor injuries (22.7%), while severe accidents were rare (3.3%), The primary causes of accidents were lack of K3 training (32.5%) and human error (29.2%), Equipment failure and unsafe work environments contributed to nearly 40% of reported accidents.

Pearson Correlation Test (K3 Culture vs. Work Accidents), A Pearson correlation test was performed to determine the relationship between K3 culture and work accident frequency.

Variable	r-value	p-value	Interpretation
K3 Culture vs. Work Accidents	-0.712	0.000	Strong negative correlation

The table show that, There is a strong negative correlation (r = -0.712, p < 0.05) between K3 culture implementation and work accident occurrence, As K3 culture improves, work accidents significantly decrease, The p-value (0.000) confirms the relationship is statistically significant.

DISCUSSION

The results of the study indicate that the implementation of a strong K3 (Keselamatan dan Kesehatan Kerja) culture has a significant effect on the incidence of work accidents among tofu industry workers in Tinalan, Kediri. This finding aligns with the theory that K3 culture—characterized by awareness, compliance, and proactive attitudes toward safety practices—plays a central role in reducing occupational hazards.

First, the study shows that workers who exhibit high awareness of K3 principles tend to engage in safer work behaviors. In the tofu production process, which involves exposure to boiling water, hot steam, slippery floors, manual lifting, and machinery, awareness becomes crucial. Workers who consciously follow safety guidelines are better prepared to identify potential hazards and avoid risky actions. This is consistent with previous studies indicating that safety awareness significantly reduces accident rates in small-scale food processing industries.

Second, the data demonstrate that management commitment to K3 is a key factor supporting the formation of a positive safety culture. In the tofu industry of Tinalan, Kediri, management efforts such as providing basic training, communicating risks, offering protective equipment, and supervising work practices contribute to shaping workers' behavior. Although some tofu home industries have limited resources, even simple efforts—like ensuring floor cleanliness, clear workflow organization, and verbal reminders—can significantly minimize risk. These findings support the notion that K3 culture is not solely dependent on infrastructure but also on consistent reinforcement from supervisors and owners.

Third, the findings highlight that inadequate implementation of K3 culture is associated with increased work accident incidents. Workers who rarely use personal protective equipment (PPE), ignore standard procedures, or are accustomed to "working fast" without considering safety are more vulnerable to injuries such as burns, slips, and cuts. This pattern reflects the influence of habitual practices and long-standing work behavior, where safety is often overlooked due to production demands, lack of training, or perceptions that protective measures slow down the work process.

Furthermore, respondents who reported frequent safety briefings and active communication among co-workers showed lower accident rates. This emphasizes the role of peer influence in shaping K3 culture. When safety becomes a shared value within a group, adherence improves collectively. Conversely, in groups where safety norms are weak, risky behaviors spread quickly.

Overall, the findings of this study reinforce the conclusion that strengthening K3 culture can significantly reduce work accidents in tofu industries, even within small-scale and traditional production settings. To sustain this impact, tofu industry owners in Tinalan need to improve routine training, ensure consistent use of PPE, enhance workplace layout and cleanliness, and build a communication system that encourages workers to report hazards without fear of blame.

CONCLUSION

Based on the results of this research, it can be concluded that the implementation of K3 (Occupational Health and Safety) culture has a significant effect on reducing the number of work accidents among tofu industry workers in Tinalan, Kediri. A strong K3 culture—characterized by awareness, compliance with safety procedures, and management commitment—creates a safer and more disciplined work environment. Workers who understand and apply K3 principles are more cautious in carrying out their tasks, thereby minimizing potential hazards and injuries. Furthermore, the study indicates that continuous K3 training, provision of safety equipment, and effective supervision contribute to the improvement of workers' safety behavior. Therefore, strengthening the K3 culture in tofu production activities is essential to ensure sustainable productivity, protect workers' well-being, and prevent future accidents.

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