



The Influence of Perceived Safety Culture and Safety Knowledge on Safety Performance Mediated by Safety Motivation (Study of Field Work Partner Employees at PT. PLN (Persero) Central Kalimantan Distribution Main Unit)



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Abstract

Perceived safety culture and safety knowledge are the two independent variables in this study. Safety performance is the dependent variable, and safety motivation is the mediating variable at PT. Central Kalimantan Distribution Main Unit of PLN (Persero). This research method uses a questionnaire with 101 employees of fieldwork partners at PT. PLN (Persero) Central Kalimantan Main Distribution Unit is the sample and has been selected from the population. Variable estimations utilize the LC procedure with a weight scale from 1 to 5. Utilize the partial least squares method to determine the correlation between variables X1, X2, and Y and Z. The consequences of the examination express that (1) PSC meaningfully affects SP, (2) SK affects SP, (3) SM affects SP, (4) PSC affects SM, (5) SK significantly affects SM, (6) PSC affects SP with SM Intercession and (7) SK affects SP with SM Intervention.

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1 Introduction

Companies should prioritize work safety by implementing programs aimed at reducing the risk of work accidents. With workplace conditions that are protected from danger and workers who receive support, workers will feel more comfortable at work. This comfort can increase productivity, satisfaction, worker welfare, reduce stress levels and the risk of work accidents (Guldenmund, 2000; Neal et al., 2000).

In 2022, the National Electric Company (PLN) Team recorded 29 work accidents with 14 deaths. Even though we have commemorated National K3 Month in 2023, work accidents still occurred which killed 5 PLN workers due to electric shock. PLN operates power plants with a total installed capacity of around 64,553 MW. In semester 1 of 2023, every unit of PT. PLN (Persero) has a target of achieving K3 performance with a final score of >3.00. However, the Main Office and UP3 Barabai only achieved a score of 2.98, which is below the target. This shows that performance is not optimal.

For semester 2, K3 maturity level performance target PT. PLN (Central Kalimantan Main Distribution Unit is set with a minimum value of >3.07. The achievement results in the seven units show an average score of 4.28, which is an extraordinary achievement and shows special competence. Employees PT. PLN Central Kalimantan Distribution Main Unit plays an active role in building a safety culture to achieve zero accident commitment. Safety culture reflects employee attitudes, values and perceptions that influence conditions in the work environment. Safety awareness is important so that the goal of zero accidents is achieved and upholding HSSE (Health, Safety, Security and Environment).

The formulation of a research problem can be formulated as follows based on the initial explanation of the problem context, namely (1) Does PSC influence the SP employees of PT. PLN (Persero) Central Kalimantan Main Distribution Unit?, (2) Does SK influence the SP employees of PT. PLN (Persero) Central Kalimantan Distribution Main Unit?, (3) Does SM influence the SP of employees PT. PLN (Persero) Central Kalimantan Main Distribution Unit?, (4) Does PSC influence the SM employees of PT. PLN (Persero) Central Kalimantan Main Distribution Unit?, (5) Does SK influence the SM employees of PT. PLN (Persero) Central Kalimantan Distribution Main Unit?, (6) Does PSC influence SP through the mediation of SM PT. PLN (Persero) Central Kalimantan Distribution Main Unit?, (7) Does SK influence SP through the mediation of SM of PT. PLN (Persero) Main Distribution Unit for Central Kalimantan?

Based on the explanation of the background and the formulation of the problem, this research aims to discover and analyze information, namely (1) PSC influences the SP employees of PT. PLN (Persero) Central Kalimantan Distribution Main Unit, (2) SK influences the SP employees of PT. PLN (Persero) Central Kalimantan Distribution Main Unit, (3) SM influences the SP employees of PT. PLN (Persero) Central Kalimantan Main Distribution Unit, (4) PSC influences the SM employees of PT. PLN (Persero) Central Kalimantan Main Distribution Unit, (5) SK influences the SM employees of PT. PLN (Persero) Central Kalimantan Distribution Main Unit, (6) PSC influences SP through the mediation of Safety Motivation PT. PLN (Persero) Central Kalimantan Distribution Main Unit and (7) SK influence SP through the mediation of SM PT. PLN (Persero) Central Kalimantan Distribution Main Unit.

The findings of this research provide academic and practical benefits (Sari et al., 2023). Academically, this research is the basis for further research in work safety management in the electricity distribution industry in South and Central Kalimantan, increasing knowledge and providing recommendations for improving work safety. Practically, this research guides companies to design effective work safety policies and programs, reduce the risk of accidents, and create a safer and healthier work environment for employees (Vierendeels et al., 2018; Tear et al., 2020).

2 Materials and Methods

The scope of research

This research analyzes variables that influence the safety performance of employees of PT. PLN (Persero) Central Kalimantan Distribution Main Unit, namely X1, X2 and Z.

Types and places of research

The category of research carried out is using quantitative methods. This analysis was carried out at PT. PLN (Persero) UID Central Kalimantan which is located on Jl. Panglima Batur No.1, North Loktabat, North Banjarbaru, South Kalimantan 7011.

Unit of analysis

Part of this research is every fieldwork partner employee at PT. PLN (Persero) Central Kalimantan Distribution Main Unit.

Population and sample size

The populace in this study is all representatives of fieldwork accomplices at PT. PLN (Persero) Focal Kalimantan Dispersion Fundamental Unit with a sum of 101 members, consisting of 80 male employees and 21 female employees.

Sampling method

Non-probability sampling techniques are used in this study, one of which is saturated sampling, in which every person in the population is used as a test (sample).

*Variables and operational definitions of variables**Perceived Safety Culture (X1)*

perceived safety culture variable consists of four indicators, (Deddy et al., 2023).

Table 1
Perceived safety culture

No.	Statement	Likert Scale				
		1	2	3	4	5
1.	During accident investigations, my management collects accurate information					
2.	I got the training I needed to do my job					
3.	When I spot dangerous conditions, it is my duty to act					
4.	I feel like I have conversations at work regarding safety					

Safety Knowledge (X2)

The security information variable has different pointers, to be specific information on utilizing well-being gear, information on sorts of work dangers and information on taking care of crisis circumstances (Vinodkumar & Bhasi, 2010).

Table 2
Safety Knowledge

No.	Statement	Likert Scale				
		1	2	3	4	5
1.	I know how to carry out my duties safely					
2.	I know how to use work procedures and safety gear					
3.	I understand how to maintain and enhance K3 in the workplace.					
4.	I comprehend how to diminish the gamble of mishaps and occurrences in the workplace					
5.	I am aware of the various risks associated with my job and the measures I must take to complete my responsibilities					
6.	I'm not sure what to do or who I should tell about any potential dangers I've identified in my workplace (<i>Reverse</i>)					

Safety Motivation (Z)

The motivation variable has indicators, namely (1) the importance of implementing safety rules and procedures, (2) the importance of using safety equipment, and (3) the importance of helping colleagues when they are in a dangerous condition, (Vinodkumar & Bhasi, 2010).

Table 3
Safety Motivation

No.	Statement	Likert Scale				
		1	2	3	4	5
1.	I consider it very important to always stay safe					
2.	I accept that security in the workplace is something vital					
3.	Reducing workplace incidents and accidents is important to me.					
4.	I think that sacrificing safety for the sake of gaining more support <i>(Reverse)</i>					
5.	I think that sacrificing safety for the sake of gaining more support					
6.	I think it's important to advocate for safety programs.					

Safety Performance (Y)

Safety performance includes the quality and quantity of roles carried out by employees following their safety responsibilities as measured by safety performance, (Vinodkumar & Bhasi, 2010).

Table 4
Safety Performance

No.	Statement	Likert Scale				
		1	2	3	4	5
1.	I use essential safety equipment					
2.	I carry out my work safely					
3.	I adhere to proper safety rules and procedures.					
4.	In carrying out my responsibilities, I guarantee the highest level of safety					
5.	I occasionally deviate from safe work practices due to time constraints					
6.	When it comes to my work habits, I may occasionally violate safe and proper work procedures <i>(Reverse)</i>					
7.	It's not always practical to follow work rules and procedures when working <i>(Reverse)</i>					
8.	I support colleagues in risky situations <i>(Reverse)</i>					
9.	I reported safety concerns to management					
10.	I am committed to improving safety					
11.	I deliberately carry out efforts or exercises that help to further develop a safe work environment					
12.	I motivate my colleagues to always work with safety principles					

Likert Scale measurement

Based on data using a Likert scale, respondents evaluate statements with five answer options to assess the level of agreement or disagreement with each variable. The average questionnaire score is used for analysis:

Table 5
Positive Likert Statement Category

Category	Weight/Score
STS	1
TS	2
RR	3
S	4
SS	5

Source: Sekaran & Bougie (2017)

Next are negative statements or what are called *reverse score* categories in the respondent's assessment, namely:

Table 6
Negative Likert Statement Category

Category	Weight/Score
SS	1
S	2
RR	3
TS	4
STS	5

Source: Sekaran & Bougie (2017)

Validity and reliability test of research instruments

The single speculation measure should be high if *the loading indicator* is >0.70 with the construct measured in the research being *confirmatory research* and the AVE value >0.50 . *Discriminant* validity in *cross-loading* with a variable value of >0.70 . *Discriminant* validity can be said to be adequate if the square root of the AVE of each construct $>$ the correlation between latent constructs, (Ghozali & Latan, 2015).

There are two reliability test measurements in constructs with hypothesis indicators, especially *Cronbach Apha* and also *Composite Reliability*. *Cronbach Alpha* and *Composite Reliability* results >0.70 are considered reliable in confirmatory research and values of 0.60 to 0.70 are said to be acceptable in exploratory research (Ghozali & Latan, 2015).

Method of collecting data

The information collection strategy used in this research is conducting *interviews* or meetings to find out information that must be researched during observation and finding things from respondents that are more intensive.

Data analysis method

Descriptive and inferential data analysis are two types of statistics used in data analysis methods.

SEM analysis

PLS is an analytical method that has a lot of influence which is also known as "*soft modeling*" and is widely used, it does not require many OLS (*Ordinary Least Squares*) regressions, multivariate normal distributions or multicollinearity problems between independent variables and the desired total sample, (Ghozali & Latan, 2015). Below, these three *phases* can be described, namely:

1) Conceptual Model

Knowing the relationship and causality between the constructs in this research has a direct influence (PSC (X1) – SP (Y), SK (X2) – SP (Y), SM (Z) – SP (Y), PSC (X1) – SM (Z), SK (X2) – SM (Z), PSC (X1) – SP (Y) - SM (Z), SK (X2) – SP (Y) - SM (Z)).

2) Drawing Path Diagrams

Explaining the influence between constructs related to four causalities including PSC (X1) – SP (Y), SK (X2) – SP (Y), SM (Z) – SP (Y), PSC (X1) – SM (Z), SK (X2) – SM (Z), PSC (X1) – SP (Y) - SM (Z), SK (X2) – SP (Y) - SM (Z).

3) Model Evaluation

This research uses the SmartPLS 3.0 program which can be carried out by surveying the estimation results (*measurement model*) or *outer model*, assessing the estimation model (*structural model*) or *inner model* and testing hypotheses.

3 Results and Discussions

Respondent characteristics

By Age

39 people participated in the survey, or 38.6% of the total, and the majority of them were between the ages of 31 and 40.

By Gender

The subjects involved were male employees, totaling 80 people and a percentage of 79.2% of all respondents.

Based on Education

A total of 72 (71.29%) respondents had a Bachelor's degree (S1). It can be seen that the fieldwork partner employees of PT. PLN (Persero) UID Kalselteng requires more technical skills and in-depth knowledge obtained through higher education to build a professional career.

Based on the Work Period

The majority of respondents were dominated by employees who had worked for 11 to 20 years with a total of 48 people, which was equivalent to a percentage of 47.52% of the total number of respondents.

Based on Employment Status

Shows that employee employment status is dominated by permanent employees, totaling 101 people and a percentage level of 100%.

Table 7
Convergent Validity Testing: Results of Outer Loadings Values

	<i>Perceived Safety Culture (X1)</i>	<i>Safety Knowledge (X2)</i>	<i>Safety Motivation (Z)</i>	<i>Safety Performance (Y)</i>
PSC.1	0.926			
PSC.2	0.909			
PSC.3	0.967			
PSC.4	0.948			
SK.1		0.963		
SK.2		0.986		
SK.3		0.935		
SK.4		0.965		
SK.5		0.970		
SK.6		0.957		
SP.1			0.946	
SP.2			0.914	
SP.3			0.944	
SP.4			0.896	
SP.5			0.924	
SP.6			0.941	
SP.7			0.910	
SP.8			0.850	
SP.9			0.888	
SP.10			0.931	
SP.11			0.904	
SP.12			0.946	
SM.1				0.934
SM.2				0.964
SM.3				0.952
SM.4				0.953
SM.5				0.913
SM.6				0.946

Source: Primary data processed by SmartPLS 3.0 *output* (2024)

Table 8
Convergent Validity Testing: Average Variance Extracted (AVE)

	Average Variance Extracted (AVE)
PSC (X1)	0.880
SK (X2)	0.927
SP (Y)	0.840
SM (Z)	0.890

Source: Primary Data processed with SmartPLS 3.0 *output* (2024)

Table 9
Discriminant Testing Validity: Results of Cross-Loading Values

	<i>Perceived Safety Culture (X1)</i>	<i>Safety Knowledge (X2)</i>	<i>Safety Motivation (Z)</i>	<i>Safety Performance (Y)</i>
PSC.1	0.926	0.080	0.370	0.456
PSC.2	0.909	0.026	0.365	0.462
PSC.3	0.967	0.104	0.450	0.507
PSC.4	0.948	0.071	0.348	0.480
SK.1	0.061	0.963	0.369	0.475
SK.2	0.122	0.986	0.463	0.536
SK.3	0.044	0.935	0.382	0.445
SK.4	0.072	0.965	0.421	0.484
SK.5	0.085	0.970	0.468	0.490
SK.6	0.048	0.957	0.440	0.531
SP.1	0.475	0.508	0.764	0.946
SP.2	0.518	0.529	0.740	0.914
SP.3	0.532	0.489	0.764	0.944
SP.4	0.527	0.425	0.688	0.896
SP.5	0.457	0.478	0.715	0.924
SP.6	0.495	0.467	0.738	0.941
SP.7	0.449	0.470	0.724	0.910
SP.8	0.489	0.363	0.651	0.850
SP.9	0.327	0.405	0.665	0.888
SP.10	0.435	0.457	0.734	0.931
SP.11	0.384	0.581	0.714	0.904
SP.12	0.489	0.465	0.744	0.946
SM.1	0.288	0.471	0.934	0.754
SM.2	0.378	0.385	0.964	0.771
SM.3	0.449	0.378	0.952	0.745
SM.4	0.463	0.353	0.953	0.755
SM.5	0.355	0.547	0.913	0.656
SM.6	0.389	0.378	0.946	0.772

Source: Primary data processed by SmartPLS 3.0 output (2024)

Table 10
Discriminant Testing Validity: Fornell & Larcker

	<i>Perceived Safety Culture (X1)</i>	<i>Safety Knowledge (X2)</i>	<i>Safety Motivation (Z)</i>	<i>Safety Performance (Y)</i>
PSC (X1)	0.938			
SK (X2)	0.076	0.963		
SP (Y)	0.509	0.514	0.917	
SM (Z)	0.411	0.443	0.787	0.944

Source: Primary data processed by SmartPLS 3.0 output (2024)

Table 11
Discriminant Testing Validity: HTMT

	<i>Perceived Safety Culture (X1)</i>	<i>Safety Knowledge (X2)</i>	<i>Safety Motivation (Z)</i>	<i>Safety Performance (Y)</i>
PSC (X1)				
SK (X2)	0.078			
SM (Z)	0.423	0.451		
SP (Y)	0.523	0.519	0.803	

Source: Primary data processed by SmartPLS 3.0 *output* (2024)

Table 12
Discriminant Testing Validity: Collinearity Test with VIF

	<i>Perceived Safety Culture (X1)</i>	<i>Safety Knowledge (X2)</i>	<i>Safety Motivation (Z)</i>	<i>Safety Performance (Y)</i>
PSC (X1)			1,006	1,223
SK (X2)			1,006	1,265
SM (Z)				1,512
SP (Y)				

Source: Primary data processed by SmartPLS 3.0 *output* (2024)

Table 13
Reliability

Matrix	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Perceived S...	0.954	0.959	0.967	0.880
Safety Kno...	0.984	0.987	0.987	0.927
Safety Moti...	0.975	0.976	0.980	0.890
Safety Perfo...	0.983	0.984	0.984	0.840

Source: Primary data processed by SmartPLS 3.0 *output* (2024)

Structural Model Analysis (Inner Model)

R – Square (Coefficient of Determination)

Safety Motivation variable can be categorized as *moderate* because the value is > 0.33 . This value, the *Safety Performance* variable is categorized as *strong* because it is at the criteria > 0.67 .

Table 14
– Square Value Results

	R - Square	R – Square Adjusted
SM (Z)	0.339	0.325
SP (Y)	0.706	0.697

Source: Primary data processed by SmartPLS 3.0 *output* (2024)

Goodness of Fit Model

Evaluation of *model fit* via NFI. *The model fit* value is seen through the NFI. The model will have a *good fit* if the NFI value is <0.9, (Hair et al., 2014).

Table 15
Result of Model Fit Value

	Saturated Model	Estimated Model
SRMR	0.052	0.052
d_ULS	1,102	1,102
d_G	7,385	7,385
Chi-square	2171.283	2171.283
NFI	0.664	0.664

Source: Primary data processed by SmartPLS 3.0 *output* (2024)

F – Square

The model's goodness is evaluated using the F – Square test, (Ghozali & Latan, 2015).

Hypothesis testing results

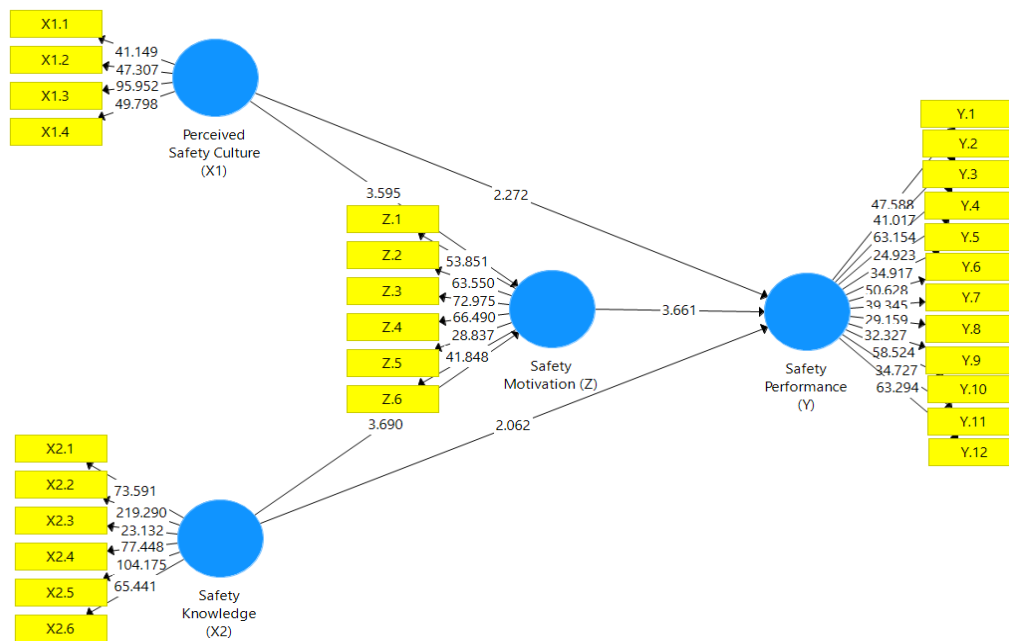


Figure 2. *Bootstrapping*

Source: Primary data processed by SmartPLS 3.0 *output* (2024)

Table 16
Path Coefficient Results of Direct Influence Hypothesis

	Original Samples (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Results
X1 → Y	0.253	0.249	0.104	2,445	0.015	Accepted
X2 → Y	0.240	0.237	0.108	2,216	0.027	Accepted
Z → Y	0.577	0.577	0.149	3,871	0,000	Accepted
X1 → Z	0.379	0.378	0.193	3,666	0,000	Accepted
X2 → Z	0.414	0.413	0.103	4,026	0,000	Accepted

Source: Primary data processed by SmartPLS 3.0 *output* (2024)

Based on H1, it can be seen that the value of T - statistics > t table is higher than the error level (2.445 > 1.96), that the significance value is lower than the error level (0.015 < 0.005), and that the value of the original sample is 0.253, which indicates a positive value. This result is consistent with empirical research and is bolstered by research (Deddy et al., 2023), demonstrating that safety culture has an impact on safety performance. Wellbeing society (security responsibility and security correspondence) fundamentally affects well-being execution (security consistency, well-being interest and safe way of behaving).

Based on H2, it is evident that the value of the T - statistics > t table is higher than the error level, namely (0.027 > 0.005), the significance value is lower than the error level, and the original sample value is 0.577, indicating a positive value. This result is consistent with empirical research, which is supported by research (Putra et al., 2022) demonstrating that SK influences SP.

Based on H3, it can be seen that the value of T - statistics > t-table is higher than the error level (3.871 > 1.96), that the significance value is lower than the error level (0.000 < 0.005), and that the value of the original sample is 0.379, which is positive. This study's findings are consistent with those of earlier research (Dhani et al., 2022), which stated that safety motivation influences safety performance. This suggests that employees will be more disciplined in maintaining work safety when they are motivated to prioritize safety at work, which will lead to an increase in safety performance.

Based on H4, it can be seen that the value of T – statistics > t-table with a comparison of (3.666 > 1.96), the significance value is lower than the error level, namely (0.000 < 0.005) and the original sample value is 0.379 which gives a positive value. Based on the results of this research, it is supported by (Ekong & Ogunbawo, 2023) proving that the perceived safety culture process has an effect on employee motivation towards safety.

Based on H5, it is evident that the value of T - statistics > t table has a comparison of (4.026 > 1.96), the significance level is lower than the error level, namely (0.000 < 0.005), and the value of the original sample is 0.414, which indicates a positive value. The consequences of this examination are following observational exploration upheld by research (Syarifah & Adiati, 2018), demonstrating that there is an impact of security information and well-being inspiration.

Table 17
Specific indirect effects results indirect effect hypothesis

	Original Samples (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Results
X1 → Z → Y	0.219	0.2225	0.101	2,168	0.031	Accepted
X2 → Z → Y	0.239	0.244	0.099	2,399	0.017	Accepted

Source: Primary data processed by SmartPLS 3.0 *output* (2024)

Based on H6, it is evident that the value of T – statistics > t-table with a comparison of (2.168 > 1.96), the significance level is lower than the error level, namely (0.031 < 0.005), and the value of the original sample is 0.219, indicating a positive value. Given exploration results upheld by (Pancasasti, 2023), it is presumed that representative work inspiration plays an interfacing job between K3 endeavors and representative execution. Impacting worker execution in an organization, one of which is K3, understanding the significance of wellbeing programs as one of representative

basic liberties and endeavors to further develop worker execution in the organization (Chittaro et al., 2018; Jiang et al., 2010).

Given H7, it very well may be seen that the worth of T - measurements > t table with a correlation of (2.399 > 1.96), the importance esteem is lower than the blunder level, in particular (0.017 < 0.005) and the first example esteem is 0.239 which gives a positive worth. This study's findings are consistent with those of empirical studies that are supported by research (Syarifah & Adiati, 2018), which demonstrate that safety knowledge has an impact on safety performance (safety compliance and safety participation) as well as safety motivation.

Research implications and research limitations

Research by Vinodkumar & Bhasi (2010), demonstrates that safety motivation and safety knowledge serve as mediators in the relationship between perceptions of safety management practices and safety performance. Safety management will be more effective with a comprehensive assessment of knowledge, motivation, compliance, safety participation, and safety management practices (Sgourou et al., 2010).

This research has several limitations, namely the limited sample, and the small number of employees do not fully represent the population. Questionnaire answers, respondents may not provide accurate answers, especially for sensitive topics. Data limitations, available data may be incomplete. Limited time, research is limited by time, reducing the breadth and depth of analysis and implementation of recommendations. Environmental changes, changes in structure, policies or work environment are not fully taken into account (Xia et al., 2020; Jiang & Probst, 2016).

4 Conclusion

From the results of the research and statistical analysis previously explained in the previous chapter, the researcher drew the following conclusions:

- a) PSC has a significant impact on the SP of Field Work Partner Employees at PT. PLN (Persero) Central Kalimantan Distribution Main Unit.
- b) SK has a significant impact on the SP of Field Work Partner Employees at PT. PLN (Persero) Central Kalimantan Distribution Main Unit.
- c) SM has a significant impact on the SP of Field Work Partner Employees at PT. PLN (Persero) Central Kalimantan Distribution Main Unit.
- d) PSC has a significant impact on the SM of Field Work Partner Employees at PT. PLN (Persero) Central Kalimantan Distribution Main Unit.
- e) SK has a significant impact on the SM of Field Work Partner Employees at PT. PLN (Persero) Central Kalimantan Distribution Main Unit.
- f) PSC has a significant impact on SP by mediating the SM of Field Work Partner Employees at PT. PLN (Persero) Central Kalimantan Distribution Main Unit.
- g) SK has a significant impact on SP by Mediating SM of Field Work Partner Employees at PT. PLN (Persero) Central Kalimantan Distribution Main Unit.

Based on this discussion, the researcher can propose several suggestions which it is hoped will become input and consideration if implemented by certain parties, including:

For Companies

- Safety Culture: Implement ISO 45001 standards, leadership support, regular training.
- Safety Knowledge: Use ISO 10015 standards, provide resource centers, knowledge audits.
- Safety Motivation: Implement incentive programs, effective communication, performance evaluation.
- Safety Performance: Use ISO 4500 standards, incident reporting systems, safety performance metrics.

For Employees

- Safety Culture: Participate in safety programs, report hazards, follow safety procedures.
- Safety Knowledge: Take training, use resources, share safety information.
- Safety Motivation: Set safety as a priority, collaborate with the team, provide positive feedback.
- Safety Performance: Adhere to standards, report incidents, evaluate and improve safety practices.

For further researchers, they can expand the population and sample coverage, conduct in-depth research on safety variables, evaluate the effectiveness of safety programs, research the influence of the latest technology and innovation, analyze employee demographics for differences in safety variables, and publish research results in international journals. Implementation of these suggestions can improve work safety at PT. PLN (Persero) UID South Kalimantan and various other industrial contexts.

Conflict of interest statement

The authors declared that they have no competing interests.

Statement of authorship

The authors have a responsibility for the conception and design of the study. The authors have approved the final article.

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