

The Influence of Occupational Safety and Health (OSH) Culture and Management Commitment on Occupational Safety and Health Management System (OSHMS) Performance through Employee Job Satisfaction at PT Aintopindo Nuansa Kimia

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Abstract

The oil and gas industry is characterized by a high level of occupational accident risk, making the implementation of an OSHMS essential for improving workplace safety, productivity, and organizational sustainability. This research aims to examine the influence of Occupational Safety and Health culture and management commitment on OSHMS performance through employee job satisfaction at PT. Aintopindo Nuansa Kimia. A quantitative research approach with a survey method was employed. Primary data were collected through questionnaires and interviews, while secondary data were obtained from relevant literature and company documents. The data were analyzed using the SEM-PLS approach with SmartPLS software. The findings indicate that both OSH culture and management commitment have a positive and significant effect on employee job satisfaction. Job satisfaction also has a positive and significant effect on OSHMS performance. The direct effect of OSH culture on OSHMS performance is not significant; however, it has a significant indirect effect through job satisfaction, indicating full mediation. In contrast, management commitment has both a significant direct effect on OSHMS performance and an indirect effect through job satisfaction, indicating partial mediation. Furthermore, management commitment is identified as the most dominant factor influencing OSHMS performance. This study finds that OSHMS success relies on safety culture, management commitment, and job satisfaction. Therefore, the company is advised to strengthen its safety culture through continuous training and reward programs, enhance management commitment with effective communication and regular evaluations, and improve employee job satisfaction by offering career development, competency building, and fair incentives to ensure sustainable OSHMS implementation.

INTRODUCTION

Job projects in the oil and gas sector are employment sectors that have a high level of risk and work accidents. This is often due to low awareness of the importance of implementing a good Occupational Safety and Health Management System (SMK3) and in accordance with applicable laws and regulations. Often the application of K3 in a project is considered only as a cost burden, not as an investment as a step to prevent work accidents that can provide a level of loss from the construction project itself. Given the high urgency of Occupational Safety and Health in the oil and gas sector in Indonesia, the government has regulated the implementation of the Occupational Safety and Health System in the State Law as well as the obligation in its implementation in all industrial sectors. This is done so that the implementation of SMK3 is an

absolute thing to protect and minimize the risk of work accidents which aims to increase performance productivity and can ensure the quality and safety of a job so that Zero work accidents can be achieved (Simeon & Nna, 2020; Yukl, 2015).

Every industrial project activity will certainly have a target for completing work on time, quality and cost according to what has been planned, but many project activities that are carried out have several obstacles in them that can cause losses and cause delays in the time of completing the work (Larsen et al., 2016; Sari, 2025). One of the causes of the disruption is a work accident that can possibly occur in oil and gas projects (El Bouti & Allouch, 2018; Nwankwo et al., 2022).

Occupational Safety and Health is one of the systems implemented in the company and has an important role in supporting Employee Performance. The work of employees inside and outside the company is often related to machinery, chemicals, and other equipment so that it requires good management of occupational safety and health. The support provided by the company's management related to occupational safety and health can be in the form of the implementation of good policies that have been implemented and socialized in accordance with the company's existing conditions (Muhammad & Marsuki, 2023; Nordlöf et al., 2017).

According to Bangun (2012) the Occupational Safety and Health Management System (SMK3) is part of the overall management system which includes the organizational structure, planning, responsibilities, implementation, procedures, processes and resources needed for the development, implementation, achievement, review, and maintenance of occupational safety and health policies in the context of risk control related to activities to achieve a safe workplace. effective, and productive. According to Mangkunegara (2013) Occupational Safety and Health is a thought and effort to ensure the integrity and perfection of both physical and spiritual workers in particular, and human beings in general, the results of work and culture to move towards a just and prosperous society. Employees must have a healthy physical condition and a supportive environment to avoid work accidents.

The definition of Job Satisfaction according to Sutrisno (2021) is an important issue that is considered in relation to employee work productivity and dissatisfaction is often associated with high levels of job demands and complaints. Meanwhile, according to Kuswadi (2015), Employee Satisfaction is a measure of how far a company can meet the expectations of its employees related to various aspects of their work and position. High Employee Performance is highly expected for every company. This is because employee performance is a benchmark in making comparisons between rights and obligations that are closely related to the job or position that has been entrusted to someone. According to Hasibuan (2009) Performance is a result of work achieved by a person in carrying out the tasks assigned to him which is based on skills, experience, seriousness, and time.

Job satisfaction is the impact or result of effective performance and success at work. Low job satisfaction in an organization is a series of 1) decreased task performance, 2) increased work attendance and on time, and 3) decreased organizational morale. Meanwhile, at the individual level, job dissatisfaction is related to 1) a great desire to quit work, 2) increased work stress, and 3) the emergence of various physical and psychological problems.

PT. Aintopindo Nuansa Kimia as a service company in the oil and gas sector has the opportunity to continue to grow in line with increasing market needs. To take advantage of these opportunities, companies need to improve the quality of human resources and the quality

of services provided. One of the important efforts is to implement the Occupational Safety and Health Management System (SMK3) consistently so that the risk of work accidents can be minimized. Given that oil and gas operational activities have a high level of risk because they involve a lot of labor, heavy equipment, and hazardous work, the implementation of SMK3 is the main need in creating a safe work environment and increasing customer trust. Therefore, this study was conducted to analyze the application of SMK3 in PT. Aimtopindo Nuansa Kimia and the factors that affect its success as the basis for the repair and prevention of work accidents.

Based on data from the HSSE Department of PT. Aimtopindo Nuansa Kimia, there are still several complaints from employees, such as the distribution of wages that are considered unfair, the lack of attention to the leaders' aspirations, poor relations between co-workers, the lack of strict sanctions for employees who are absent, and the uneven distribution of personal protective equipment (PPE). This condition shows that there is still a need to increase job satisfaction and management commitment. Various studies state that leadership style and management commitment affect job satisfaction, organizational commitment, and employee performance (Prayudi, 2020). Management that is able to provide support, rewards, good communication, and opportunities for development will encourage employees to work more optimally so that organizational performance can improve (Nursiti & Sofyandi, 2021; Prayudi, 2020).

Several previous studies have examined the relationships between safety culture, management commitment, job satisfaction, and OSHMS performance (Mukhtar, 2018). Shurbagi (2015) found that organizational culture has a significant positive effect on job satisfaction, while Taurisa and Intan (2016) confirmed that K3 culture positively and significantly affects job satisfaction. Indrawati et al. (2017) demonstrated that management commitment significantly influences job satisfaction, and Amponsah-Tawiah and Justice (2016) reported a significant positive relationship between K3 management and organizational commitment. Junaedi et al. (2013) further revealed that job satisfaction mediates the relationship between occupational health and organizational commitment. Winaya et al. (2023) found that management commitment, K3 regulations, and competency all positively affect employee performance, while Hayes et al. (1998) established that a strong safety climate improves safety compliance. Karmawan and Sudibya (2020) added that OSH programs improve worker health and satisfaction. From this body of literature, it is evident that direct relationships between safety culture, management commitment, and job satisfaction are well-established, and job satisfaction is consistently shown to influence organizational commitment and performance. However, mediation effects of job satisfaction have been tested in general organizational contexts but rarely in the specific context of OSHMS performance, particularly in the Indonesian oil and gas service sector (Almubaroq, 2019).

Despite existing studies, several research gaps remain, including the underexplored mediating role of job satisfaction between safety culture, management commitment, and OSHMS performance in the Indonesian oil and gas service sector, the inconclusive direct effect of safety culture on OSHMS performance, the limited application of Social Exchange Theory Blau, (1964) in occupational safety settings, the scarcity of empirical evidence from high-risk oil and gas service companies, and the prevalence of partial two-variable models that fail to capture comprehensive direct and indirect pathways. To address these gaps, this study offers

novelty through an integrated mediation model that simultaneously tests both direct and indirect effects via job satisfaction, applies Social Exchange Theory to explain employee reciprocity in safety contexts, focuses on PT. Airtopindo Nuansa Kimia as an underexplored oil and gas service company, distinguishes between full and partial mediation to provide nuanced managerial insights, and employs SEM-PLS for robust analysis with practical sample constraints.

Based on the identified gaps, this study aims to analyze the direct and indirect effects of OSH culture and management commitment on OSHMS performance through employee job satisfaction as a mediating variable at PT. Airtopindo Nuansa Kimia, specifically examining seven relationships: the effects of OSH culture and management commitment on job satisfaction, the effect of job satisfaction on OSHMS performance, the direct effects of both OSH culture and management commitment on OSHMS performance, and the indirect effects of both variables through job satisfaction. Theoretically, this study contributes to occupational safety management literature by integrating Social Exchange Theory into the OSHMS framework, providing empirical evidence on job satisfaction's mediating role, enriching the underexplored Indonesian oil and gas sector literature, and offering a validated measurement model for future research. Practically, it provides actionable recommendations for PT. Airtopindo Nuansa Kimia to improve OSHMS performance through strengthening safety culture, enhancing management commitment, and increasing job satisfaction via career development, fair rewards, and effective communication, while also serving as a reference for other oil and gas companies, offering policy insights for government agencies, and providing HSSE managers with a practical diagnostic framework for improving OSHMS implementation.

In addition to a good work culture, management commitment also plays an important role in the successful implementation of SMK3. Management that has a high commitment will be better able to motivate, empower, and direct employees to achieve company goals. Previous research has also shown that the implementation of K3 has a positive effect on job satisfaction and organizational commitment, while job satisfaction plays a role as a mediating variable that can improve organizational performance. Based on these conditions, this study was conducted to analyze the influence of K3 culture and management's commitment to SMK3 performance through employee job satisfaction at PT. Airtopindo Nuances Chemistry.

METHOD

Types of Research

This research used a quantitative descriptive method with a causal approach to analyze the influence of K3 culture and management commitment on SMK3 performance through job satisfaction as a mediating variable (Sugiyono, 2017). The research data was obtained through the dissemination of questionnaires, interviews, and literature studies, then analyzed using statistical methods to test the relationship between variables according to the hypothesis that had been set. The research stages include data collection, data processing, analysis using statistical software, and the preparation of research conclusions and recommendations.

Data and Data Sources

Data Primer

Primary data is data obtained directly from respondents, namely employees of PT Aintopindo Nuansa Kimia. Data collection was carried out through the distribution of questionnaires as the main instrument and supported by interviews with employees and management to obtain information in accordance with research needs.

Data Seconds

Secondary data is obtained indirectly through various sources, such as books, scientific journals, company documents, and other relevant references. This data is used as a support in the preparation of theoretical foundations, the development of research variables, and the discussion of research results.

Population and Sample

The population in this study is all permanent employees of PT Aintopindo Nuansa Kimia which totals 208 people. The determination of the number of samples refers to Hair et al. (1995), which is at least five times the number of research indicators so that a minimum of 100 respondents is obtained. The sampling technique uses Stratified Purposive Random Sampling, where respondents are selected based on the group of positions that meet the research criteria, with all non-managerial employees being used as research samples.

Data Collection Techniques

Literature Study

Literature studies are carried out by collecting various references from books, journals, scientific articles, documents, and other sources relevant to the research. The information is used as a theoretical basis and reference in the preparation of instruments and analysis of research results.

Field Studies

Field studies were carried out directly at the research site through the distribution of questionnaires to respondents. The statements in the questionnaire were compiled based on the indicators of each research variable so that they could measure respondents' perceptions of K3 culture, management commitment, job satisfaction, and SMK3 performance.

Data Quality and Data Analysis Methods

Data Quality Test

1. Validity Test

The validity test was carried out to determine the ability of each statement item to measure the research variables. The test used SPSS-assisted by comparing the Corrected Item-Total Correlation (r calculated) value to the r of the table at a significance level of 5%. The statement is declared valid if the calculated r value is greater than the r of the table and has a positive value.

2. Reliability Test

The reliability test was carried out to determine the level of consistency of the research instrument. The test uses the Cronbach's Alpha method, where a variable is declared reliable if it has a Cronbach's Alpha value of more than 0.60 so that the instrument can be used consistently in the research.

Data Analysis Methods

Data analysis was carried out using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) method with the help of the SmartPLS application. This method was chosen because it is able to analyze the relationships between variables simultaneously, can be used on relatively small sample sizes, and does not require normal distributed data. The analysis was carried out through testing the outer model to assess the validity and reliability of the construct, as well as the inner model to test the relationship between variables and research hypotheses.

RESULTS AND DISCUSSION

Hypothesis Testing Results

The next test is to look at the significance that represents the hypothesized relationship between constructs or to see the influence between variables on path coefficients using the bootstrapping procedure. Next is the bootstrapping output to see the amount of the T-statistic value

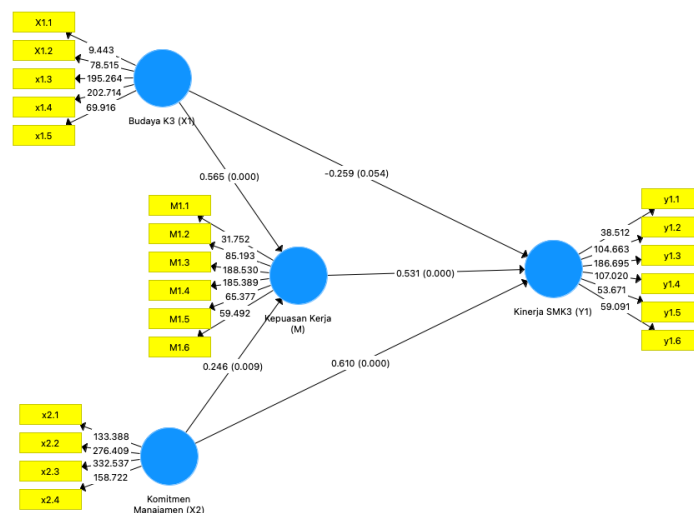


Figure 1. Research Construct Relationship Model with Bootstrapping Method

Source: SmartPLS Output 3, 2026

1. Direct Effect

Direct influence analysis is useful to test the hypothesis of the direct influence of an influencing (exogenous) variable on the affected variable (endogenous). Data processing results

Table 1. Direct Impact Results

Hipotesis	Pathway	Koef. (O)	T-Statistics	P-Values	Remarks
H1	K3 Culture (X1) → Job Satisfaction (M)	0.565	5.884	0.000	Significant
H2	K3 Culture (X1) → Performance of SMK3 (Y1)	-0.259	1.933	0.054	Marginal

Hipotesis	Pathway	Koef. (O)	T-Statistics	P-Values	Remarks
H3	Job Satisfaction (M) → Performance of SMK3 (Y1)	0.531	6.643	0.000	Significant
H4	Management Commitment (X2) → Job Satisfaction (M)	0.246	2.625	0.009	Significant
H5	Management Commitment (X2) → Performance of SMK3 (Y1)	0.610	4.094	0.000	Significant

Source: SmartPLS Output 3, 2026.

Based on the data from the test results above, there are 5 hypotheses, of which four are accepted and one is rejected. The following are the results of the hypothesis testing of each construct, which are as follows:

a. H1: K3 Culture (X1) → Job Satisfaction (M)

The test results showed a positive pathway coefficient of 0.565 with a T-Statistics of 5.884 ($P = 0.000 < 0.05$). Thus, H1 is accepted. These findings prove that the better the implementation of the K3 Culture in the work environment, the higher the level of employee job satisfaction. Theoretically, this is consistent with the perspective that a safe work environment and a strong safety culture foster a sense of psychological safety among workers, which in turn increases their job satisfaction.

b. H2: K3 Culture (X1) → SMK3 Performance (Y1)

The coefficient of the direct influence of K3 Culture on the Performance of SMK3 was negative value of -0.259 with T-Statistics of 1.933 and P-Values of 0.054. Because the P-Values are slightly above 0.05 (but below 0.10), this relationship is categorized as marginal/insignificant at the 5% level, so H2 is rejected (statistically insignificant at $\alpha = 0.05$), despite indications of bias (marginal significance at $\alpha = 0.10$). The direction of this negative and insignificant coefficient indicates the phenomenon of suppression effect or full mediation, namely the influence of K3 Culture on SMK3 Performance actually works indirectly through Job Satisfaction, not directly. This will be discussed further in the mediation analysis section (Section 4.2).

c. H3: Job Satisfaction (M) → Performance of SMK3 (Y1)

Job Satisfaction was proven to have a positive and significant effect on the performance of SMK3 with a path coefficient of 0.531, T-Statistics 6.643, and P-Values of 0.000 (< 0.05). H3 accepted. This finding is one of the most powerful results in the model, confirming that job satisfaction is an important determinant in driving performance achievement of SMK3 implementation in the workplace.

d. H4: Management Commitment (X2) → Job Satisfaction (M)

Management Commitment has a positive and significant effect on Job Satisfaction, with a path coefficient of 0.246, T-Statistics 2.625, and P-Values of 0.009

(<0.05). H4 accepted. These findings show that management's real commitment to the implementation of K3 also shapes employees' positive perception of their work, even though its contribution to Job Satisfaction is relatively smaller than that of K3 Culture (compare the coefficient of 0.246 in H4 with 0.565 in H1).

e. H5: Management Commitment (X2) → SMK3 Performance (Y1)

Management commitment has also been proven to have a positive and significant effect directly on SMK3 Performance, with a path coefficient of 0.610, T-Statistics 4.094, and P-Values of 0.000 (<0.05). H5 is accepted. In fact, this coefficient is the largest direct influence in the overall structural model, indicating that management commitment is the most dominant and direct predictor of the success of SMK3 implementation, much stronger than the direct influence of K3 Culture.

2. Indirect Effect

Indirect influence analysis was carried out to test the hypothesis of the indirect influence of exogenous variables on endogenous variables through intervening variables, or variables that mediate exogenous variables on endogenous variables. From the path coefficients test conducted using SmartPLS is presented in the following table:

Table 2. Indirect Influence Results (mediation)

Hypothesis	Mediation Pathway	Koef. (O)	T-Statistics	P-Values	Remarks
H6	K3 Culture (X1) → Job Satisfaction (M) → Performance of SMK3 (Y1)	0.300	4.230	0.000	Signifikan
H7	Management Commitment (X2) → Job Satisfaction (M) → Performance of SMK3 (Y1)	0.131	2.280	0.023	Signifikan

Source: SmartPLS Output 3, 2026.

a. H6: K3 Culture (X1) → Job Satisfaction (M) → Performance of SMK3 (Y1)

The indirect influence of K3 Culture on SMK3 Performance through Job Satisfaction as a mediator was recorded at 0.300 with T-Statistics of 4.230 and P-Values of 0.000 (<0.05), so that H6 was accepted (significant mediation). Given that the direct influence of K3 Culture on SMK3 Performance (H2) is not significant (P = 0.054) while the indirect influence is significant, this relationship pattern is categorized as full mediation/indirect-only mediation. In other words, the K3 Culture does not directly affect the performance of SMK3, but fully works through increasing Job Satisfaction first.

b. Management Commitment (X2) → Job Satisfaction (M) → Performance of SMK3 (Y1)

The indirect influence of Management Commitment on SMK3 Performance through Job Satisfaction was 0.131 with T-Statistics 2.280 and P-Values 0.023 (<0.05), so that H7 was accepted (significant mediation). Because the direct influence of

Management Commitment on the Performance of SMK3 (H5) is also significant and unidirectional (positive), this relationship pattern is categorized as partial mediation. This means that Job Satisfaction strengthens and becomes one of the channels for channeling the influence of Management Commitment on SMK3 Performance, but Management Commitment still has a direct influence that stands alone on SMK3 Performance.

Table 3. Recapitulation of Hypothesis Testing Results

Hypothesis	Hypothesis Statement	Results
H1	K3 culture has a positive effect on job satisfaction	Accepted
H2	K3 culture has a positive effect on SMK3 Performance (direct)	Rejected
H3	Job Satisfaction has a Positive Effect on SMK3 Performance	Accepted
H4	Management Commitment has a Positive Effect on Job Satisfaction	Accepted
H5	Management Commitment has a positive effect on SMK3 Performance (direct)	Accepted
H6	Job Satisfaction Mediates the Influence of K3 Culture on SMK3 Performance	Accepted (Full Mediation)
H7	Job Satisfaction mediates the influence of Management Commitment on SMK3 Performance	Accepted (Partial Mediation)

Source: SmartPLS Output 3, 2026.

Final Structural Model Equation

Based on the path coefficient value (original sample) of the PLS algorithm, the final structural equation formed is as follows:

1. Sub-structure 1: Job Satisfaction (M)

$$M = 0.565 X1 + 0.246 X2 + \zeta_1 (R^2 = 0.603) \quad (4.1)$$

2. Sub-structure 2: SMK3 Performance (Y1)

$$Y1 = -0.259 X1 + 0.531 M + 0.610 X2 + \zeta_2 (R^2 = 0.712) \quad (4.2)$$

Description:

X1 = K3 Culture;

X2 = Management Commitment;

M = Job Satisfaction;

Y1 = SMK3 Performance;

g1, g2 = error term.

If M is substituted into the equation Y1, the equation of the total influence of X1 and X2 on Y1 is obtained:

$$Y1 = (-0.259 + 0.565 \times 0.531) X1 + (0.610 + 0.246 \times 0.531) X2 + e = 0.041 X1 + 0.741 X2 + e \quad (4.3)$$

The results of this substitution are consistent with the Total Effects value in Table 4.12, as well as confirming that the influence of K3 culture on the overall performance of SMK3 is very small and insignificant (dominated by the mutual negation between negative direct effects

and positive indirect effects), while the total influence of management commitment is very large and significant.

Perhitungan Goodness of Fit (GoF)

Since PLS-SEM is a variance-based approach and does not provide a global model fit test like CB-SEM, the overall model fit evaluation was conducted using the GoF Index developed by Tenenhaus et al. (2004), with the formula:

$$\text{GoF} = \sqrt{(\text{AVE-track-track} \times \text{R}^2\text{-track-rata})}$$

Table 4. Components of Goodness of Fit (GoF) Calculation

Construct	AVE	R Square (Endogen)
K3 Culture (X1)	0,825	-
Management Commitment (X2)	0,946	-
Job Satisfaction (M)	0,870	0,603
SMK3 (Y1) Performance	0,877	0,712
Track-Track (Mean)	0,8795	0,6575

Source: SmartPLS Output 3, 2026.

Table 5. Stages of Calculation of Goodness of Fit (GoF) value

Calculation Stage	Results
AVE average (4 constructs)	$(0,825+0,870+0,877+0,946) / 4 = 0,8795$
Average R ² (2 endogenous constructs)	$(0,603+0,712) / 2 = 0,6575$
AVE track-track $\times$ R ² track-track	$0,8795 \times 0,6575 = 0,5783$
GoF = $\sqrt{0,5783}$	0,7605

Source: SmartPLS Output 3, 2026.

Table 6. Goodness of Fit (GoF) value interpretation criteria

GoF Value	Threshold (Wetzels et al., 2009)	Category
0,10	GoF small	Small
0,25	GoF medium	Medium
0,36	GoF large	Large
0.7605 (This model)	> 0.36	Large (Excellent)

Source: Wetzels et al. (2009)

The GoF value of 0.7605 is far above the threshold of the large category which is 0.36 according to the criteria of Wetzels et al. (2009). Thus, it can be concluded that this research model has a very good level of suitability (goodness of fit).

K3 Culture on Employee Job Satisfaction

Based on the hypothesis testing carried out, it is known that the K3 culture has a positive influence on the job satisfaction of employees of PT. Aintopindo Nuances Chemistry. This indicates that if the K3 culture that takes place can be carried out effectively, it will be able to make workers more satisfied and good in carrying out their work.

The results of this study are supported by several studies that have been conducted previously, including research conducted by Shurbagi (2015) showing that organizational culture has a significant influence on job satisfaction. The regression model implied in this study was found to be statistically significant (P-value < 0.05). If the culture created by an organization is good, then employees will feel safe, so that employees have satisfaction with the company.

Then Taurisa and Intan (2016) proved that K3 culture has a positive and significant effect on job satisfaction. This shows that the stronger the safety culture, the higher the job satisfaction felt by employees. In this study, the most dominant indicator of job satisfaction is the feeling of being valued, which shows that when an employee feels valued in a company. The similarities in this study were carried out in companies and the results were that K3 culture has a positive and significant effect on job satisfaction. The difference in this study is the use of the census method and the selection of variable theories in the K3 organizational culture and job satisfaction.

Management's Commitment to Employee Job Satisfaction

Based on the next hypothesis test, namely management's commitment to employee job satisfaction, the results were obtained that there was a positive and significant influence of management commitment on employee job satisfaction at PT. Chemical Nuances. These findings show that management's real commitment to the implementation of K3 also shapes employees' positive perception of their work, even though its contribution to Job Satisfaction is relatively smaller than that of K3 Culture (compare the coefficient of 0.246 in H4 with 0.565 in H1).

The results of this study are in line with the research conducted by (Indrawati, et al., 2017) that the statistical results obtained by management commitment have a significant positive influence on job satisfaction with a path coefficient of 0.394 each. This means that the better the management commitment applied in employee work activities, the more reluctant employees are to leave the company and always want to do the best thing for the company. The equation in this study is to use the theory of organizational commitment variables Allen and Meyer, (1990) and prove that job satisfaction has a positive and significant effect on organizational commitment. The difference in this study lies in the selection of the job satisfaction theory (Hezberg theory) and the location of the research conducted at the Denpasar City Hygiene and Parks Service (DKP).

The effect of management's commitment to work satisfaction at PT. Aintopindo Nuansa Kimia because effective management commitment is an important factor in creating mutual understanding, strengthening confidence, managerial processes, improving and fostering cooperation between workers.

Then in the context of management commitment, it includes the ability to pay more attention, develop workers' skills competencies and understand more about the needs and conditions of workers. This can be well understood by management and responded well to its workers

The importance of management commitment in the company creates mutual understanding, strengthens confidence, good managerial processes and fosters cooperation between company members at PT. Aintopindo Nuances Chemistry.

Job Satisfaction with the Performance of the Occupational Safety and Health Management System

Based on the third hypothesis test carried out, it can be concluded that job satisfaction is proven to have a positive and significant effect on the performance of SMK3 with a path coefficient of 0.531, T-Statistics 6.643, and P-Values of 0.000 (<0.05). H3 accepted. This finding is one of the most powerful results in the model, confirming that job satisfaction is an

important determinant in driving performance achievement of SMK3 implementation in the workplace.

The company Aintopindo Nuansa Kimia implements an occupational safety and health system because it is considered important for every individual to reduce the risk of work accidents and be able to achieve the company's goals. One of the important factors that can affect Employee Performance is the ability factor and motivation factor, with these factors, it is easier for employees to achieve the expected performance (Asmawiyah et al., 2020). Various efforts made by the company include implementing an Occupational Safety and Health Management System which aims to minimize the risk of work accidents and ensure the safety of its employees from the dangers of work accidents and unsafe work environments so that they can harm employees and the company later. With the implementation of the Occupational Safety and Health Management System at PT. Aintopindo Nuansa Kimia can determine the progress and success of the company because employees can work optimally and produce good quality work and can motivate employees so that employee performance increases. If the company can reduce the rate of work accidents, illnesses and things that can cause stress, and be able to improve the quality of life of employees, then employee performance and company performance can be said to be improved and effective (Leitão et al., 2019; Purnomo & Prisilia, 2024).

The company has fulfilled the rights of employees to provide adequate work facilities so that their physical and mental health is protected from harmful activities that can result in workplace accidents that they carry out. By providing a comfortable and safe workplace, it provides adequate health insurance and facilities that can be used by employees so that employees can perform their duties and responsibilities well.

Review, responsibility, the existence of work procedures, the maintenance of continuous occupational safety and health policies and monitored by management can minimize the risk of work accidents that occur, so that employees will feel satisfied at work. Therefore, with employee job satisfaction, a good Occupational Safety and Health Management System can be realized properly at PT. Aintopindo Nuances Chemistry.

The relationship between job satisfaction and the occupational safety and health management system can be concluded that employees will feel safe at work, both physical security, stability, work-related diseases, fear and anxiety at work, and a sense of security due to the personal protective equipment provided by the company. Therefore, the occupational safety and health management system implemented in the company can be improved and realized properly.

Job Satisfaction is the result of work that brings employees satisfaction with it. Job dissatisfaction is often associated with high levels of demands on workers and complaints from the workers themselves. Job satisfaction needs to be considered in order to maintain good performance quality so that job satisfaction can be achieved. In the variables of job satisfaction, the indicators used to measure job satisfaction according to Luthans (2006) are as follows:

1. Satisfaction with the work itself
2. Satisfaction with salary
3. Satisfaction with promotions in the company
4. Satisfaction with supervision (superior)
5. Satisfaction with coworkers

The creation of an Occupational Safety and Health Management System to create a safe, efficient and productive workplace by carrying out planning activities, and controlling occupational safety and health procedures in order to minimize risks related to work accidents. In the variables of the Occupational Safety and Health System, the indicators used to measure the Occupational Safety and Health Management System according to Sinambela (2017) are as follows:

1. Commitment and Wisdom
2. K3 Planning
3. Implementation and Implementation of K3
4. K3 Measurement and Evaluation

K3 Culture on the Performance of Occupational Safety and Health Management System

From the hypothesis testing carried out, it was found that the coefficient of the direct influence of K3 Culture on SMK3 Performance was negative value of -0.259 with T-Statistics of 1.933 and P-Values of 0.054. Because the P-Values are slightly above 0.05 (but below 0.10), this relationship is categorized as marginal/insignificant at the 5% level, so H4 is rejected (statistically insignificant at $\alpha = 0.05$), despite indications of bias (marginal significance at $\alpha = 0.10$). The direction of this negative and insignificant coefficient indicates the phenomenon of suppression effect or full mediation, namely the influence of K3 Culture on SMK3 Performance actually works indirectly through Job Satisfaction, not directly. This will be discussed further in the mediation analysis section.

Theoretically, K3 Culture is a set of shared values, beliefs, attitudes, and behaviors that encourage every individual to make occupational safety and health a priority in carrying out work. However, the existence of such a culture does not necessarily result in automatic improvements in system performance. In practice, the success of SMK3 implementation is not only determined by employees' perception of safety culture, but also influenced by other organizational factors, such as management commitment, resource provision, communication effectiveness, worker competence, compliance with procedures, training, supervision, and employee involvement in the implementation of the K3 management system. If these factors have not run optimally, then the safety culture that has been formed has not been able to have a real impact on improving the performance of SMK3. This condition is in line with the concept that culture is a factor that shapes behavior, while the achievement of organizational performance requires the support of a comprehensive management system.

When associated with the condition of the respondents at PT Aintopindo Nuansa Kimia, the results can be interpreted that most of the employees have a good perception of the importance of occupational safety and show concern for the K3 aspect. However, this perception has not fully translated into an improvement in the performance of SMK3 implementation. This can happen because the implementation of SMK3 is a structural and administrative system, so that its success does not only depend on the work culture owned by employees, but also on the consistency of the implementation of company policies, the effectiveness of supervision, the adequacy of K3 facilities and infrastructure, the implementation of internal audits, follow-up inspection results, and management support in providing the necessary resources. In other words, the K3 culture functions as the foundation of behavior, while the achievement of SMK3 performance requires the support of broader organizational mechanisms.

Rejection Hypothesis 4 also indicates that employees tend to assess the application of SMK3 based on the work experience they feel directly, such as the comfort of the work environment, appreciation from the company, clarity of work procedures, relationships with superiors, opportunities for development, and a sense of security at work. These factors contribute to the emergence of job satisfaction. When employees feel satisfied, they will be more motivated to comply with K3 procedures, participate in safety activities, report potential hazards, and support the implementation of SMK3 consistently. Therefore, the K3 culture does not have a direct influence on the performance of SMK3, but works through increasing job satisfaction first. This result is strengthened by the acceptance of Hypothesis 6 which shows that job satisfaction mediates the relationship between K3 Culture and SMK3 Performance.

From the perspective of Social Exchange Theory (SET) developed by Blau (1964), the results can also be explained that the reciprocal relationship between the organization and employees is the main mechanism that influences work behavior. When a company succeeds in building a good K3 culture, employees do not automatically increase their contribution to the implementation of SMK3. The culture must first create a positive perception that the organization cares about the safety, health, and well-being of workers. This perception will increase job satisfaction, which in turn encourages employees to reciprocate the organization's treatment through more positive work behaviors, including compliance with SMK3 procedures, participation in safety programs, and improved performance of safety management system implementation. Thus, the mechanism of social exchange explains why the direct relationship between K3 culture and SMK3 performance is insignificant, while the indirect relationship through job satisfaction is significant.

These findings are also supported by previous studies that show that the direct relationship between safety culture and performance is not always significant. Several studies have found that the influence of safety culture becomes stronger when mediated by psychological or behavioral variables, such as job satisfaction, safety behavior, safety motivation, and employee involvement. Thus, the successful implementation of SMK3 is not enough to only build a safety culture, but also to ensure that this culture is able to improve the positive psychological condition of employees so that they are encouraged to actively participate in the implementation of the safety management system.

Based on this description, it can be concluded that Hypothesis 4 was rejected because of the K3 Culture at PT. Airtopindo Nuansa Kimia has not been able to have a direct influence on the performance of SMK3. The influence of K3 Culture on SMK3 Performance occurs through increasing Job Satisfaction as a full mediation variable. In other words, the better the K3 Culture, the more employee job satisfaction will be increased, then the job satisfaction will encourage an increase in the implementation and performance of SMK3. Therefore, it is not enough for companies to only strengthen safety culture through socialization or K3 campaigns, but also need to improve aspects that affect job satisfaction, such as management support, reward systems, two-way communication, competency development, employee engagement, and the provision of a safe and comfortable work environment. This strategy will result in a more effective and sustainable implementation of SMK3 (Aydin, 2022).

Management's Commitment to Occupational Safety and Health Management System

From the hypothesis testing carried out, it is known that management commitment is also proven to have a positive and significant effect directly on the performance of SMK3, with

a path coefficient of 0.610, T-Statistics 4.094, and P-Values of 0.000 (<0.05). H5 is accepted. In fact, this coefficient is the largest direct influence in the overall structural model, indicating that management commitment is the most dominant and direct predictor of the success of SMK3 implementation, much stronger than the direct influence of K3 culture.

Research conducted by Indrawati, et al, (2017) that if organizations are able to manage K3 management commitments well, it will have an impact on the growth of a good occupational safety and health management system as well. This can be interpreted as a good organization is an organization that always provides a guarantee of the safety and health of its members of the organization at work (Barbosa, 2023). And because the organization/employee members feel that they are well cared for, they will feel reluctant to leave the organization where they work, and have a high commitment to their organization. In carrying out their duties, employees need a conducive, comfortable, and safe work environment to protect them, which in turn affects their motivation to work effectively. Istiqamah et al., (2022) states that complete occupational safety facilities can reduce the risk of accidents, while the maintenance of optimal occupational health is essential to avoid physical and psychological disturbances caused by work environment conditions. This includes the implementation of personal protective equipment and safety protocols to avoid injury, as well as wellness programs to prevent work-related health problems.

Karmawan and Sudibya (2020) define Occupational Safety and Health (K3) as a series of efforts directed at ensuring and maintaining the physical and mental health and integrity of workers. Based on the Indonesian Law No. 13 of 2003 concerning Manpower, every worker has the right to receive occupational health and safety protection in accordance with ethics, morals, and respect for the dignity and values of humanity and religion. The law also establishes an obligation for every company to implement an occupational safety program. Istiqamah, et al. (2022) explained that the K3 program in companies is designed to build an occupational safety system that integrates management, labor, working conditions, and the work environment to minimize the risk of accidents.

Effective implementation of the K3 program is key to preventing incidents of work incidents and ensuring a safe and conducive work environment. Occupational health and safety issues are not the sole responsibility of the state, but the responsibility of all stakeholders, namely business owners, management, employees and the community. The optimal implementation of the SMK3 program in the company will increase employee satisfaction and performance. Mathis and Jackson (2007) define performance as the level of achievement achieved by employees, evaluated based on standards or criteria set by the company.

We can understand that the implementation of the Occupational Safety and Health Management System is not due to a program that has been created by the company but has become an important need that must be met for mine workers. Field workers in the mine will need more security and good stamina than mine employees who work in the office. The implementation of K3 remains the same, only the level of danger or risk is different. The existence of the K3 program is not a benchmark for a mining employee to spend their career in the company because K3 is an obligation that is fulfilled to be safe and comfortable while working in the field.

This is consistent with the Social Exchange theory which explains that real management support triggers pro-safety behavior from employees. In this corporate context, management's

commitment is not only in the form of written policies, but also the active involvement of management in K3 meetings, budget support from the Company for the running of K3 programs that directly motivate employees to improve their SMK3 performance.

K3 Culture Through Job Satisfaction Towards Occupational Safety and Health Management System

From the hypothesis testing carried out, it was known that the indirect influence of K3 Culture on SMK3 Performance through Job Satisfaction as a mediator was recorded at 0.300 with T-Statistics of 4.230 and P-Values of 0.000 (<0.05), so that H6 was accepted (significant mediation). Given that the direct influence of K3 Culture on SMK3 Performance (H2) is not significant ($P = 0.054$) while the indirect influence is significant, this relationship pattern is categorized as full mediation/indirect-only mediation. In other words, the K3 Culture does not directly affect the performance of SMK3, but fully works through increasing Job Satisfaction first.

This phenomenon of rejection of direct influence is further strengthened by the findings of the fourth hypothesis (H4) which confirms the existence of a full mediation effect by Job Satisfaction. If the K3 Culture is rigidly enforced through a "top-down" approach without regard for employee satisfaction, these safety rules tend to be eliminated or considered as a mere regulatory burden. On the other hand, when companies are able to convert the implementation of K3 Culture into a work environment that is safe, comfortable, and respects the existence of workers, job satisfaction will increase. Based on the principle of reciprocity of SET, increasing job satisfaction is the "psychological fuel" for workers to repay the organization's kindness (obligation to reciprocate). Satisfied workers no longer view K3 compliance as coercion, but rather voluntarily display proactive safety behavior (Safety Citizenship Behavior), which in turn encourages the reliability of SMK3 Performance on a sustainable basis. Thus, the rejection of H4 and the acceptance of H6 prove the theoretical validity of Social Exchange Theory in the study of occupational safety, where the intermediation of job satisfaction is absolutely necessary as an emotional-behavioral bridge that transforms cultural perceptions into concrete actions that make a company's occupational safety and health management system a success.

Management Commitment Through Job Satisfaction to Occupational Safety and Health Management System

From the hypothesis testing carried out, it was known that the indirect influence of management's commitment to the performance of SMK3 through job satisfaction was 0.131 with T-Statistics of 2.280 and P-Values of 0.023 (<0.05), so that H7 was accepted (significant mediation). Because the direct influence of management's commitment on the performance of SMK3 (H5) is also significant and unidirectional (positive), this relationship pattern is categorized as partial mediation. This means that Job Satisfaction strengthens and at the same time becomes one of the channels for channeling the influence of management's commitment on the performance of SMK3, but management commitment still has a direct influence that stands alone on the performance of SMK3.

According to Ivancevich (2005), it is stated that the higher the perception of employee job satisfaction, the higher the level of organizational or management commitment owned by the company. To maintain job satisfaction and employee commitment, namely by paying attention to their occupational safety and health. In a study conducted by Indrawati et al, (2017)

that the implementation of K3 has a significant positive influence on job satisfaction and organizational commitment. Based on the calculation of statistical data, it was obtained that job satisfaction is a mediating variable. This shows that job satisfaction has a role in mediating the influence of the implementation of the Occupational Safety and Health Management System on management or organizational commitments. The good implementation of K3 by the company will make employees feel safe and comfortable at work, thus causing a sense of satisfaction in them, and can ultimately spur them to be more committed to the organization where they work. The equation in this study is using the theory of organizational commitment variables (Allen and Meyer, 1990), proving that the application of K3 has a significant positive influence on job satisfaction and job satisfaction has a positive and significant effect on organizational commitment. The difference in this study lies in the selection of the job satisfaction theory (Hezberg theory) and the location of the research conducted at the Denpasar City Hygiene and Parks Service (DKP).

Further research conducted by Junaedi, et al., (2013) showed that occupational health has a significant effect on job satisfaction and organizational commitment, job satisfaction affects organizational commitment. The results of the calculation show that the result obtained from the path coefficient is 0.140 so that the indirect influence is significant, thus it can be concluded that the indirect influence of k3 on organizational commitment if job satisfaction is 0.140. The equation of this study uses a theoretical review of the variables of job satisfaction Luthans, (2006) and organizational commitment Allen and Meyer, (1990) and can prove that occupational safety and health have a significant effect on job satisfaction and organizational commitment. The difference in research lies in the use of theoretical review on occupational safety and health variables Dessler, (2009) and the use of sampling techniques, namely random sampling and probability sampling.

Further research from Amponsah-Tawiah and Justice, (2016) shows a positive and significant relationship between health and safety management work, and affective, normative, and sustainable commitments. The similarity of this study is the use of a theoretical review on the variables of organizational commitment Meyer and Allen, (1997) and proves that there is a significant relationship between K3 and job satisfaction. The difference in this study lies in the location of the research and the use of the theory on the variables of occupational safety and health. This is also supported by research conducted by Taurisa and Intan (2012) which proves that job satisfaction has a positive and significant effect on organizational commitment. The similarities in this study are the same as studies conducted in companies and the results of research that prove that there is a significant influence on job satisfaction on organizational commitment. The difference in this study is the use of two different variable theories, namely the variable of job satisfaction Hartline and Ferrell, (1996) and organizational commitment using the theory (Ganesan and Weitz, 1996).

It can be concluded that there is an influence of management's commitment to the occupational safety and health management system, to maintain both companies must meet the needs of K3 and job satisfaction for each employee.

CONCLUSION

Based on the results of the research, it can be concluded that K3 culture and management commitment have a positive effect on the job satisfaction of employees of PT. Aimtopindo

Nuances Chemistry. Job satisfaction has also been proven to have a positive and significant effect on the performance of SMK3, so it is an important factor in increasing the success of the implementation of the occupational safety and health system. The influence of K3 culture on SMK3 performance occurs indirectly through job satisfaction (full mediation), while management commitment affects both directly and indirectly through job satisfaction (partial mediation). Therefore, companies are advised to continue to strengthen the K3 culture, increase management commitment through communication, evaluation, and competency development of employees, and increase job satisfaction through career development and rewards to employees. For further research, it is recommended to examine other factors that can affect the performance of SMK3, such as individual competence, worker participation, and work environment conditions, so as to provide a more comprehensive understanding of the factors that support the successful implementation of SMK3.

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