

Volume 1, March 2023
Proceedings of the 1st International Conference on Management
and Small Medium Enterprise (ICMSME-2023)

Determinant of Employees Performance in West Borneo Palm Oil Industry: Occupational Safety and Health Insight

Dina Octaviani^{a*}, Nur Afifah^b, Juniwati^c

^aUniversitas Tanjungpura, Indonesia

^bUniversitas Tanjungpura, Indonesia

** Corresponding author e-mail: dinaoctaviani060510@gmail.com*

A B S T R A C T

In light of the potential of Indonesia's economic growth derived by palm oil industry. Decent working conditions are remain partially met by employers in the field. Oil palm plantation workers are exposed to various occupational hazards. Inadequate practice in occupational safety and health cause poor individual health condition and lost productivity in operational performance. The quantitative study conducted at PT. Agro Andalan in Sekadau Regency aimed to determine how workplace safety and health practices affected workers' performance (West Kalimantan). The total sampling by involving all employees in the palm oil industry accumulated as 77 employees is categorized as sample. Data were analysed with SPSS 22.0 by applicating regression model. It is concluded that occupational safety and health have simultaneous effect to enhance employee performance. The research is carried out occupational safety and health practice to promote safety assurance and reduce health risk in workplace. For the further research it is preferably to compare numerous companies to gain contextual knowledge about palm oil labour conditions in West Kalimantan.

Keywords: Occupational Health and Safety; Employee Performance; Palm Oil Industry

INTRODUCTION

Every company's core source of motivation for all operations that aim to accomplish objectives, generate revenue, and ensure the organization's survival is its human resources. An organization's success in sustaining its existence stems from efforts to manage human resources, particularly in optimizing employee performance. Human resources serve as the fundamental capital in establishing a company's goals claimed by Hasibuan (2012). Employees act as agents, planners, and decision-makers in the accomplishment of organizational objectives. According to Mangkunegara (2011) organization wants its people to perform well at work. It is hoped that good staff performance will enable the goals to be accomplished in line with business strategy. Performance is the outcome of an employee's achievement of quality and quantity of work while carrying out his duties in accordance with the delegated obligations. When a corporation is able to maximize the potential of its employees, it will be able to get the best performance out of those individuals. Every person can solve all of the company's problems effectively and efficiently with good performance, enabling the company to address issues as they arise and successfully meet its set objectives. Performance is referred to as the outcomes or work output of continuing work (Wibowo, 2013). Suryadi (2008) states that the achievement of work results is achieved by a person or group within an organization in accordance with their respective authorities and responsibilities in order to achieve the goals of the organization concerned legally and in accordance with morals and ethics. The output produced by the function or indicator of a job in a particular profession is performance. Performance can be defined as the willingness of employees to carry out an activity in accordance with their responsibilities with the expected results. To support optimal performance results from workers, companies need to strengthen aspects of safety and health in the work environment.

Health and safety risks are factors in the work environment that can cause material losses to the company and to the physical employees. Occupational safety is a way to prevent harm, loss, or suffering at work that results from interference with management procedures, work floors, equipment, materials, or working conditions (Mangkunegara, 2011). In the manufacturing sector composed with machinery, equipment, material handling, raw materials, and their management processes, as well as work mechanisms involving technology like elevators, escalators, equipment, transportation facilities, and others, safety is related to employee activities.

PT. Agro Andalan is located in Setawar Village at Sekadau Regency with a planted area of 3,504 hectares of oil palm to produce CPO and Kernel. The main activities carried out at the factory start with purchasing Tandan Buah Segar (TBS) from internal and external farmers, then processing them using machines by going through several stages inside the factory so that they become the main products, namely Crude Palm Oil (CPO) and Kernels. The palm oil plantation that has been built has a capacity of 60 tonnes of TBS per hour. This company operates every working day with a schedule of two shifts. This company provides information on the zero-

accident program in work factories through counselling activities, inspections, preparation of activity schedules and management of occupational safety and health (K3).

Table 1. PT. Agro Andalan Employees Data by Year 2019 – 2022

Year	Number of Employees	Amount of Work Accident				Percentage
		Fatal	Mayor	Moderate	Minor	
2019	81	0	0	0	0	0%
2020	81	0	0	0	1	1,23%
2021	80	0	0	1	3	3,75%
2022	77	0	0	0	0	1,30%

Source: Palm Oil Plantation from PT. Agro Andalan (2022)

It can be reported from the data in Table 1. that the number of work accidents for all employees at PT. Agro Andalan is categorized as minimum (<1.50%) until the last 4 years. However, in order to be able to maintain employee performance, the empowerment of good employee safety and health (K3) practices is needed in order to mitigate risks that can occur which can reduce employee performance. Occupational safety defined by Mondy & Noe (2010) is the protection of employees from injuries caused by work-related accidents. Safety risk is an aspect of the work environment that can endanger physical and psychological conditions. Health risks are factors in the work environment that work beyond the specified time period, an environment that can create emotional and physical stress. Husni (2009) contends that workplace safety and industrial accidents are related. An industrial accident is an unanticipated, undesirable occurrence that stops a regulated activity's process. The company's staff health program comprises initiatives to prevent and treat illnesses brought on by employment in order to ensure the level of physical, spiritual, and social health. Health concerns can result from variables in the workplace that operate longer than expected and from stressful and physically unsettling surroundings. By preventing employees from workplace dangers that are harmful to their health and including job maintenance as part of the company's protection of employee rights, occupational health aims to maintain and enhance levels of physical, mental, and social well-being.

RESEARCH METHODS

Quantitative research method with a descriptive approach with the object of research on palm oil factory employees at PT. Agro Andalan. Descriptive approach can describe the actual situation of data collection and processing to obtain conclusions (Nazir, 1999). The population is all research subjects (Suharsimi, 2006). In this study the sampling used is saturated sampling as the entire sample represents the total population. Data collection techniques are sourced from primary and secondary data. Primary data obtained from observation and questionnaires. The distribution of the questionnaire was in the form of a list of questions using a Likert scale which had 4 choices namely Strongly Agree (SS), Agree (S), Disagree (D) and Strongly Disagree (DA).

Data processing uses the SPSS 22.0 program to test the validity, reliability and hypotheses of the research.

Table 2. Measurement of Constructs

Variables	Dimension	Items	Adapted from	
Occupational Safety and Health (X ₁)	Workplace Conditions	(X _{1.1})	During the preparation of this machine neatly arranged in the plantation area	Swasto (2011)
		(X _{1.2})	The level of lighting and lighting of plantation is adequate	
		(X _{1.3})	The condition of the machines and equipment of plantation is well maintained	
	Personal Attitude	(X _{1.4})	I always use personal protective equipment when working	
		(X _{1.5})	Occupational safety and health (K3) procedures are easy to understand and implement	
		(X _{1.6})	Each machine and work equipment in plantation are given signs warning of danger	
	Workplace Environment	(X _{1.7})	I am able to build good relationships between colleagues	
		(X _{1.8})	The atmosphere in the plantation environment is well maintained and kept clean	
	Psychological Condition	(X _{1.9})	I work not under pressure	
		(X _{1.10})	My safety and health are guaranteed while working	

Employee Performance	Work Quality	(X _{1.11})	I don't feel threatened at plantation	Miner (2017)	
		(Y _{1.1})	I am able to complete the work properly and thoroughly		
		(Y _{1.2})	I have a good quality of work and professionalism at plantation		
	Work Quantity	(Y _{1.3})	I always work based on standard and procedure applied by plantation		
		(Y _{1.4})	The amount of work I did in that period exceeded the work of other employees		
		(Y _{1.5})	The volume of work I produce is in line with office expectations		
		(Y _{1.6})	I am able to achieve the targets given by the office		
		Working Period	(Y _{1.7})		I complete work on time to avoid backlogs
			(Y _{1.8})		I always set a target time to complete the task
	(Y _{1.9})	I am able to complete the work before the specified deadline			

Source: Primary Data (2022)

RESULTS & DISCUSSION

Analysis of the description of respondents in the study amounted to 77 respondents as characteristics including gender, marital status, level of education, age and years of service. Respondents with male sex were 72 people with a percentage of 94%, married status were 50 people with a percentage of 65%, high school education level were 67 people with a percentage of 87%, age level 21-30 years were 65 people with a percentage of 84% with working period ≥ 3 years as many as 72 people with a percentage of 94% shown in Table 3 as follows:

Table 3. Respondent Characteristics

Category	Item	Frequency(F)	Percentage(%)
Gender	Male	72	94%
	Female	5	6%
	Total	77	100%
Marital Status	Married	50	65%
	Single	27	35%
	Total	77	100%
Education	High School	67	87%
	Diploma Degree	2	3%
	University Degree	8	10%
	Total	77	100%
Age	21 – 30	65	84%
	31 – 40	9	12%
	41 – 50	3	4%
	Total	77	100%
Working Period	1 – 2 years	5	7%
	≥ 3 years	72	94%
	Total	77	100%

Source: Primary Data (2022)

By comparing the r_{count} value with the r_{table} for degree of freedom ($df = n - 2$, (n) is a sample, the validity test was conducted using the SPSS program with the following criteria: If $r_{\text{count}} > r_{\text{table}}$, then the question item is legitimate. The number of samples (n) in this study is 77; the df magnitude can be computed as $77 - 2$ with $df = 75$ and $\alpha = 0.05$; this yields a r_{table} value of > 0.227 .

Table 4. Validity Test

Item	r_{count}	r_{table}	Description
X _{1.1}	0.366	> 0.227	Valid
X _{1.2}	0.430	> 0.227	Valid
X _{1.3}	0.537	> 0.227	Valid
X _{1.4}	0.554	> 0.227	Valid
X _{1.5}	0.555	> 0.227	Valid
X _{1.6}	0.541	> 0.227	Valid
X _{1.7}	0.446	> 0.227	Valid
X _{1.8}	0.515	> 0.227	Valid
X _{1.9}	0.482	> 0.227	Valid
X _{1.10}	0.439	> 0.227	Valid
X _{1.11}	0.585	> 0.227	Valid
Y _{1.1}	0.454	> 0.227	Valid
Y _{1.2}	0.468	> 0.227	Valid
Y _{1.3}	0.454	> 0.227	Valid
Y _{1.4}	0.597	> 0.227	Valid
Y _{1.5}	0.618	> 0.227	Valid
Y _{1.6}	0.653	> 0.227	Valid
Y _{1.7}	0.551	> 0.227	Valid
Y _{1.8}	0.573	> 0.227	Valid
Y _{1.9}	0.554	> 0.227	Valid
Y _{1.10}	0.618	> 0.227	Valid
Y _{1.11}	0.593	> 0.227	Valid
Y _{1.12}	0.516	> 0.227	Valid
Y _{1.13}	0.580	> 0.227	Valid
Y _{1.14}	0.571	> 0.227	Valid
Y _{1.15}	0.562	> 0.227	Valid
Y _{1.16}	0.619	> 0.227	Valid

Source: SPSS (2022)

The instrument items are declared valid from the validity test after it turns out that the correlation coefficient of all statement items has the value of r_{count} above r_{table} (0.227), so that all statement items on the variables (X) Occupational Safety and Health and (Y) Employee Performance are valid. The validity test on the variables (X) Occupational Safety and Health and (Y) Employee Performance shows that the correlation coefficient is the same as the critical coefficient (r_{table}) = (0.227).

Table 5. Reliability Test

Variables	Cronbach Alpha	Significance
Occupational Safety and Health	0.686	Reliable
Employee Performance	0.859	Reliable

Source: SPSS (2022)

Based on the reliability test of the Occupational Safety and Health variable (X), it is known that the Cronbach's Alpha coefficient on the variable (X) is 0.686, meaning that the value is greater than 0.06, so all statement items in variable (X) are declared reliable. In addition, dependent variable in which Employee Performance it is known that the Cronbach's Alpha coefficient on the variable (Y) is 0.859 meaning that the value is greater than 0.06, so all statement items in the variable (Y) are declared reliable.

Table 6. Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std.Error	Beta	t	Sig.
1	(Constant)	30,802	5,914		5,208	,000
	Keselamatan dan Kesehatan Kerja	,616	,166	,393	3,703	,000

a. Dependent Variable: kinerja karyawan

Source: SPSS (2022)

In the regression calculation, a constant value (α) of 30,802 is obtained, while the beta value or regression coefficient (β) of the independent variable, namely occupational safety and health (K3), is denoted Y as:

$$Y = 30.802 + 0.616X_1$$

a. A constant of 30,802 is interpreted as a constant value of the influence of occupational safety and health

- b. The regression constant is 0.616 which means that occupational safety and health have a positive effect on employee performance; the higher the level of occupational safety and health, the better the employee performance

Table 7. Hypothesis Testing

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	227,835	1	227,835	13,714	,000 ^b
	Residual	1245,983	75	16,613		
	Total	1473,818	76			

- a. Dependent Variable: employee performance
 b. Predictors: (constant), occupational health and safety
 Source: SPSS (2022)

Based on Table 7 the results of the F test show that F count is 13.714, it is known that F table is 3.97 with a significant 5% (0.05) then F count > F table (13.714 > 3.97) with sig 0.000 < 0.05 so it can be concluded that the independent variables of occupational safety and health simultaneously influence employee performance, so that it is stated that the hypothesis is accepted. The result associated with previous research by Diah Kosasih Zen (2017) which states that there is an influence between occupational safety and health on employee performance.

CONCLUSION & SUGGESTION

It is found that palm oil plantations can improve worker performance by focusing on occupational safety and health issues that aim to give employees a sense of security while they are working. Since high school education predominates in oil palm companies such as PT. Agro Andalan aware of several factors when preparing for occupational safety and health, such as the arrangement of work machines and equipment in the factory area to produce an ideal quantity of work. The relationship between occupational safety and health have been linked in the workplace performance. By recognizing the interplay between of state of health employee condition and performance, employers might able to mitigate individual injuries and improve the ability to fulfil a worker's duties. Working at palm oil industry is quoted as high ill-structured jobs therefore addressing the issue by strengthening occupational health and safety by performing procedure, rules and first aid training as act to imply managerial values for the well-being of a worker. The nature of job condition in palm oil industry could proportionally demonstrate by added number of employees through in-depth interview as data source. Companies could conduct further research on building emotional intelligence and emphasizing workplace hazard design compensation policy in palm oil plants to support organizational capacity performance.

REFERENCES

- [1] Arikunto, S. (2017). Pengembangan Instrumen Penelitian dan Penilaian Program. Yogyakarta: Pustaka Pelajar
- [2] Armstrong, M. (2012). Strategic Human Resource Management Practice. Kogan Page: London.
- [3] Bernstein, A., & Beeferman, L. (2015). The Materiality of Human Capital to Corporate Financial Performance. New York: IRRIC Institute
- [4] Brathos. B. (2010). Manajemen Sumber Daya Manusia Jakarta: Bumi Aksara.
- [5] Dessler, G. (2009). Manajemen Sumber Daya Manusia. Jakarta: Prehalindo.
- [6] Dwomoh, G., Owusu, E. E., & Addo, M. (2013). Impact of occupational health and safety policies on employees' performance in the Ghana's timber industry: Evidence from Lumber and Logs Limited. *International Journal of Education and Research*, 1(12), 1-14.
- [7] Hasibuan, M. (2012). Manajemen Sumber Daya Manusia. Jakarta: Bumi Aksara.
- [8] Husni, L. (2009). Manajemen Sumber Daya Manusia. Jakarta: PT Raja Grafindo
- [9] Sarwono, J. (2005). Teori dan Praktik Riset Pemasaran dengan SPSS. Yogyakarta: Andi Yogyakarta.
- [10] Kuncoro, M. (2009). Metode Riset Untuk Bisnis & Ekonomi. Jakarta: Erlangga
- [11] Lamm, F., Massey, C., & Perry, M. (2006). Is there a link between workplace health and safety and firm performance and productivity? *New Zealand Journal of Employment Relations*, 32(1), 75-90.

- [12] Lim, A. (2012). OHS management system: Three benefits for construction enterprise. *Journal of Empirical Literature*, 2(3), 22-31.
- [13] Mangkunegara, A. A. (2010). *Evaluasi Kinerja SDM*. Bandung: Refika Aditama.
- [14] Mangkunegara, A. A. (2011). *Manajemen Sumber Daya Manusia Perusahaan*. Bandung: PT. Remaja Rosda Karya.
- [15] Manullang, S. H. (2010). *Pokok-Pokok Hukum Ketenagakerjaan Indonesia*. Jakarta: Rineka Cipta.
- [16] Mathis, R. L., & Jackson, J. (2011). *Manajemen Sumber Daya Manusia*. Jakarta: Salemba Empat.
- [17] Moenir, H. (2012). *Pendekatan Manusia dan Organisasi Terhadap Pembinaan Kepegawaian*. Jakarta: Bumi Aksara.
- [18] Mondy, R. W., & Noe, R. M. (2010). *Human Resources Management*. New Jersey: Prentice Hall.
- [19] Nazir, M. (1999). *Metode Penelitian*. Jakarta: Ghalia.
- [20] Paais, M., & Pattiruhu, J. R. (2020). Effect of Motivation, Leadership, And Organizational Culture on Satisfaction and Employee Performance. *The Journal of Asian Finance, Economics and Business*, 7(8), 577-588.
- [21] Putri, D. O., Triatmanto, B., & Setiyadi, S. (2018). The effect of occupational health and safety, work environment and discipline on employee performance in a consumer goods company. In *IOP Conference Series: Materials Science and Engineering* (Vol. 337, No. 1, p. 012036). IOP Publishing.
- [23] Hadari. (2000). *Administrasi Pendidikan*. Jakarta: Gunung Agung.
- [24] Rivai, V. (2013). *Manajemen Sumber Daya Manusia untuk Perusahaan*. Jakarta: Murai Kencana.
- [25] Sugiyono. (2014). *Metode Penelitian Bisnis, Bandung*: Alfabeta.
- [26] Summer & Hyman (2009). *Evaluasi Kinerja*. Jakarta: UMM Press.
- [27] Tamers, S. L., Streit, J., Pana-Cryan, R., Ray, T., Syron, L., Flynn, M. A., ... & Howard, J. (2020). Envisioning the future of work to safeguard the safety, health, and well-being of the workforce: A perspective from the CDC's National Institute for Occupational Safety and Health. *American journal of industrial medicine*, 63(12), 1065-1084.
- [28] Wibowo. (2014). *Manajemen Kinerja*. Jakarta: Raja Grafindo Persada.
- [29] Wibowo. (2012). *Manajemen Kinerja*. Jakarta: Rajawali Persada.
- [30] Arikunto, S. (2017). *Pengembangan Instrumen Penelitian dan Penilaian Program*. Yogyakarta: Pustaka Pelajar
- [31] Armstrong, M. (2012). *Strategic Human Resource Management Practice*. Kogan Page: London.
- [32] Bernstein, A., & Beeferman, L. (2015). *The Materiality of Human Capital to Corporate Financial Performance*. New York: IRRC Institute
- [33] Brathos. B. (2010). *Manajemen Sumber Daya Manusia Jakarta*: Bumi Aksara.
- [34] Dessler, G. (2009). *Manajemen Sumber Daya Manusia*. Jakarta: Prehalindo.

- [35] Dwomoh, G., Owusu, E. E., & Addo, M. (2013). Impact of occupational health and safety policies on employees' performance in the Ghana's timber industry: Evidence from Lumber and Logs Limited. *International Journal of Education and Research*, 1(12), 1-14.
- [36] Hasibuan, M. (2012). *Manajemen Sumber Daya Manusia*. Jakarta: Bumi Aksara.
- [37] Husni, L. (2009). *Manajemen Sumber Daya Manusia*. Jakarta: PT Raja Grafindo
- [38] Sarwono, J. (2005). *Teori dan Praktik Riset Pemasaran dengan SPSS*. Yogyakarta: Andi Yogyakarta.
- [39] Kuncoro, M. (2009). *Metode Riset Untuk Bisnis & Ekonomi*. Jakarta: Erlangga
- [40] Lamm, F., Massey, C., & Perry, M. (2006). Is there a link between workplace health and safety and firm performance and productivity? *New Zealand Journal of Employment Relations*, 32(1), 75-90.
- [41] Lim, A. (2012). OHS management system: Three benefits for construction enterprise. *Journal of Empirical Literature*, 2(3), 22-31.
- [42] Mangkunegara, A. A. (2010). *Evaluasi Kinerja SDM*. Bandung: Refika Aditama.
- [43] Mangkunegara, A. A. (2011). *Manajemen Sumber Daya Manusia Perusahaan*. Bandung: PT. Remaja Rosda Karya.
- [44] Manullang, S. H. (2010). *Pokok-Pokok Hukum Ketenagakerjaan Indonesia*. Jakarta: Rineka Cipta.
- [45] Mathis, R. L., & Jackson, J. (2011). *Manajemen Sumber Daya Manusia*. Jakarta: Salemba Empat.
- [46] Moenir, H. (2012). *Pendekatan Manusia dan Organisasi Terhadap Pembinaan Kepegawaian*. Jakarta: Bumi Aksara.
- [47] Mondy, R. W., & Noe, R. M. (2010). *Human Resources Management*. New Jersey: Prentice Hall.
- [48] Nazir, M. (1999). *Metode Penelitian*. Jakarta: Ghalia.
- [49] Paais, M., & Pattiruhu, J. R. (2020). Effect of Motivation, Leadership, And Organizational Culture on Satisfaction and Employee Performance. *The Journal of Asian Finance, Economics and Business*, 7(8), 577-588.
- [50] Putri, D. O., Triatmanto, B., & Setiyadi, S. (2018). The effect of occupational health and safety, work environment and discipline on employee performance in a consumer goods
- [51] company. In *IOP Conference Series: Materials Science and Engineering* (Vol. 337, No. 1, p. 012036). IOP Publishing.
- [52] Hadari. (2000). *Administrasi Pendidikan*. Jakarta: Gunung Agung.
- [53] Rivai, V. (2013). *Manajemen Sumber Daya Manusia untuk Perusahaan*. Jakarta: Murai Kencana.
- [54] Sugiyono. (2014). *Metode Penelitian Bisnis, Bandung*: Alfabeta.
- [55] Summer & Hyman (2009). *Evaluasi Kinerja*. Jakarta: UMM Press.
- [56] Tamers, S. L., Streit, J., Pana-Cryan, R., Ray, T., Syron, L., Flynn, M. A., ... & Howard, J. (2020). Envisioning the future of work to safeguard the safety, health, and well-being of the workforce: A perspective from the CDC's National Institute for Occupational Safety and Health. *American journal of industrial medicine*, 63(12), 1065-1084.

- [57] Wibowo. (2014). *Manajemen Kinerja*. Jakarta: Raja Grafindo Persada.
- [58] Wibowo. (2012). *Manajemen Kinerja*. Jakarta: Rajawali Persadda