

The Influence of Work Environment, Occupational Safety and Health on Employee Performance “The Case of PT PLN UP3 Manokwari”

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ABSTRACT

Employee performance greatly determines the success and achievement of a company's work productivity, where the creation of a good, comfortable physical and non-physical work environment, as well as attention and service to occupational safety and health are needed. The target of the study was PT. PLN (Persero) UP3 Manokwari. The sampling technique was a census, and a sample of 68 PLN company employees was taken. Data were collected through interviews, observations and documents related to the study. The research method used descriptive analysis with a quantitative approach. Analysis of research data using SEM-PLS. The results of the study showed that employee performance was in the high category. Non-physical environmental factors have a direct effect on employee performance, conversely physical environmental factors through the non-physical environment have an indirect effect. Occupational safety and health factors do not affect employee performance

INTRODUCTION

Humans work in a work environment where they interact with other people and with physical facilities to achieve common goals. A comfortable and conducive workplace is essential to ensure workers feel comfortable and can perform their jobs effectively, leading to productivity. Improved employee performance will be achieved when organizations focus on the workplace environment, safety, and employee health. When employees feel comfortable in their work environment, it will undoubtedly impact the organization's progress. A safe, healthy, and comfortable work environment is crucial, impacting social relationships, mental and physical well-being, and an employee's physical well-being. Creating a productive work environment is not easy; it requires the direct involvement of all human resources to create a comfortable and enjoyable work atmosphere. Sedarmayanti (2009) argues that a comfortable and healthy work environment will positively impact employee well-being.

A crucial aspect of creating a work environment is ensuring worker safety and health. Occupational safety and health programs are designed to prevent workplace accidents and maintain optimal worker health, which in turn leads to increased productivity. The relationship between employee safety, health, and comfort at work is closely linked to employee performance.

One of the factors supporting a company's success is employee performance. Employees have the potential to actualize certain behaviors when faced with work-related situations. Mangkunegara (2013) defines performance as the achievement of results based on the quality and quantity of employees completing their assigned tasks and responsibilities. The performance of each individual employee is influenced by various factors, one of which is support in creating a comfortable work environment, both physically and non-physically.

PT. PLN (Persero) is a State-Owned Enterprise (BUMN) that provides electricity to meet the needs of the community. PLN's work environment requires attention to safety. This is related to PLN's function of providing electricity, which carries the potential for hazards associated with the presence of electrical energy. Therefore, a work environment that prioritizes safety is highly emphasized for every employee. PT PLN's role as a business entity providing electricity services to consumers requires attention to the safety, comfort, and health of its workforce so that they are capable, skilled, and maintain a conducive and safe work environment. Therefore, the concept of implementing the K3 program, namely occupational safety and health, must always be considered by PT PLN. The ultimate goal of implementing K3 is for the workforce work system to create a safe working atmosphere, avoiding all physical and mental disorders in carrying out work. Occupational safety and health are work priorities that will provide good work productivity in workforce performance. Related to employee performance in order to create a comfortable and safe work environment, the objectives of this study are (1) to analyze the performance of employees of PT. PLN (Persero) UP3 Manokwari. (2) to analyze the influence of the physical work environment, non-physical work environment, occupational safety and occupational health on employee performance at PT. PLN (Persero) UP3 Manokwari on employee performance.

LITERATURE REVIEW

Employee Performance

Employee performance is the result of work or employee progress over a specific period of time in carrying out tasks based on the company's goals, objectives, and strategies (Rivai, 2004). Furthermore, Harsey and Blanchard (...) state that performance is a function of an employee's motivation and ability to complete tasks, commensurate with their level of ability. An employee's abilities and skills are insufficient to effectively perform a task without a clear understanding of what will be done and how to do it.

Work Environment

The workplace significantly impacts the physical and mental condition of workers. Therefore, the physical and non-physical environment where employees work must be constructed, organized, and designed to ensure employee productivity. Odger (2006) defines a productive work environment as one that provides comfort, efficiency, and safety, designed to meet the physical and psychological needs of employees. This means that employee health and safety factors must be provided and addressed by the company. Nitisemito (1986) also stated that one factor that can influence employee performance in completing a task is the work environment. An unpleasant work environment will lead to a decline in representative work output, while a comfortable workplace will foster job satisfaction and increased employee productivity, ultimately leading to company productivity.

Work Environment Factors on Employee Performance

Mangkunegara (2005) suggests that there are two main factors that determine employee performance: employee personality factors at work and environmental factors surrounding the employee's work environment. Personality factors include (1) individual factors, including capacity and talent, background, and socioeconomic background; (2) psychological factors, including wisdom, character, personality, and inspiration; and (3) organizational/associational elements, including assets, authority, rewards, organizational structure, and work plans. Meanwhile, environmental factors surrounding employees include the physical and non-physical work environments.

METHODOLOGY

The research subjects were PT. PLN (Persero) Manokwari Customer Service Implementation Unit (UP3). The study was designed using a quantitative descriptive method with interview techniques. The research sample was determined using saturated sampling (census), where all members of the population were sampled. The sample size was 68 respondents. The research variables included employee performance, physical environment, non-physical environment, occupational safety, and occupational health. Variables were measured using a tiered score ranging from 1 to 5. The analysis of the influence relationship used partial least squares (PLS) analysis.

RESULTS AND DISCUSSION

The Company's Physical Work Environment

The physical work environment describes the physical condition of employees' workspaces while performing their work. The detailed distribution of physical work environment scores is presented in Table 1.

Table 1. Results of the Descriptive Analysis of the Physical Work Environment

Physical Work Environment	Score					Total	Category	Level
	n(5)	n(4)	n(3)	n(2)	n(1)			
Workspace Color Scheme	75	132	30	16	2	255	3,75	High
Workspace Aesthetics	80	116	33	20	2	251	3,69	High
Workspace Lighting	105	100	45	10	2	262	3,85	High
Workspace Sunlight Entering the Workspace	110	108	30	18	0	266	3,91	High
Workspace Air Temperature	100	96	42	16	2	256	3,76	High
Workspace Air Circulation	115	68	57	14	2	256	3,76	High
Workspace Noise	95	116	42	8	2	263	3,87	High
Outside Noise	80	124	51	6	1	262	3,85	High
Workspace Size	55	116	51	16	3	241	3,54	High
Workspace Space in the Workspace	70	88	63	14	4	239	3,51	High
Workspace Safety	110	108	45	6	1	270	3,97	High
Workspace Safety Support Facilities	95	116	42	8	2	263	3,87	High
Workspace Cleanliness	65	120	48	14	2	249	3,66	High
Workspace Cleanliness Facilities	80	108	39	18	3	248	3,65	High
						3581	52,66	
Physical Work Environment Competence	3,76							

The average score for the physical work environment in which employees work is 3.76, categorized as high (Table 1). This means that the physical work environment where employees work at the company is categorized as high.

When examining the physical environment components, all components are categorized as high, including workspace conditions, air circulation, security, room facilities, and cleanliness. A comfortable, safe, and protected work environment from various detrimental activities will create high work productivity. Ranupandojo and Husnan (2002) stated that companies that can guarantee security and inner peace at work will foster enthusiasm and passion for work. Conversely, if companies do not pay attention to the physical work environment, it will lead to a decrease in employee enthusiasm and work ethic, thus decreasing employee productivity and performance. Furthermore, Newstrom and Davis (2007) stated that the physical environment is a more substantial condition than other work environments in shaping employee work behavior. Nitisemito (2002) also emphasized that everything around the employee's workplace is a physical environment that can influence their performance.

When examined partially, the highest score was achieved in the work environment safety component (2.97). Creating a safe work environment free from crime in any form is crucial. This relates to the function of the company where employees work, namely PT PLN (State Electricity Company), which provides electricity to consumers. The company's role as an electricity provider requires a safe work environment. A safe work environment is free from various sources of human crime, such as vandalism, robbery, or improper use of fire sources. Therefore, the physical environment, regarding work environment safety, is a top priority for employee performance.

Characteristics of the Non-Physical Work Environment in the Company

The non-physical environment is a component of the work environment that emphasizes the social conditions of employees interacting with fellow workers within the social workplace. Non-physical environmental indicators are expressed in five manifest/indicator variables. The results of the descriptive analysis of the non-physical work environment are presented in Table 2.

Table 2. Results of the Descriptive Analysis of the Non-Physical Work Environment

Non-Physical Work Environment	Score					Total	Category	Level
	n(5)	n(4)	n(3)	n(2)	n(1)			
Communication with Coworkers	95	152	33	0	0	280	4,12	High
Division of Tasks and Responsibilities among Employees	60	188	15	8	0	271	3,99	High
Communication with Superiors	110	144	27	2	0	283	4,16	High
Opportunities to Express Opinions to Others	105	132	39	2	0	278	4,09	High
Receiving Suggestions and Criticism	80	164	30	2	0	276	4,06	High

Non-Physical Work Environment Competencies	4,08
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Based on Table 2, it appears that the simultaneous achievement score is 4.08, categorized as high. This indicates that the social interaction conditions within the non-physical environment have created reciprocal, open, and two-way communication and social contact between employees and management at PT PLN. Communication will help employees achieve good work performance. Devito (2011) stated that one of the characteristics of effective communication is openness.

The quality of open communication encompasses at least three aspects: 1) open communication in the exchange of information, 2) honesty in communication, and 3) the information conveyed is the responsibility of the communicators. The direction of communication is to foster harmony between superiors and subordinates and between employees, thus creating a conducive communication climate that will foster productive performance.

The work environment is a second home for every employee, as they spend nearly half of their time there. Therefore, a comfortable atmosphere, such as harmonious relationships, is essential to encourage employees to be more enthusiastic in completing their assigned tasks and ultimately achieve optimal performance.

Occupational Safety Characteristics in Companies

Occupational safety is a critical component of employee performance, and environmental conditions that create comfort and safety for employees are essential. Occupational safety indicators are measured using statements containing 10 indicators. The results of the descriptive analysis of occupational safety are shown in Table 3.

Table 3. Results of the Descriptive Analysis of Occupational Safety

Occupational Safety	Score					Total	Category	Level		
	n(5)	n(4)	n(3)	n(2)	n(1)					
Occupational Safety Socialization	75	2	33	6	1	267	3,93	High		
Involvement in Occupational Safety Training	80	0	42	4	1	267	3,93	High		
Standard Operating Procedures	70	6	39	2	1	268	3,94	High		
Involvement in the Social Security System	16	10	5	4	24	2	0	295	4,34	Very High
Availability of Occupational Protective Equipment	65	2	36	8	1	262	3,85	High		
Availability of Fire Fighting Equipment	80	6	33	4	0	273	4,01	High		

Comparison of Workforce and Workload	55	14 8	45	8	1	257	3,78	High
Work Time Distribution	75	14 4	42	6	0	267	3,93	High
Availability of Warning AVAs	11	11 0	36	8	1	271	3,99	High
Monitoring Work Compliance	80	14 0	39	4	2	265	3,90	High
						269		
						2	39,59	High
Occupational Safety Competence	3,	96						

The occupational safety score in Table 3 shows an average score of 3.96, categorized as high. This indicates that PT PLN (State Electricity Company) has provided safety facilities and infrastructure for employees and implemented applicable regulations to ensure their safety. Specifically, the employee involvement component in the social security system achieved the highest score (4.34). Social security is a major concern because involvement in the social security system guarantees and protects employees in various situations, including workplace accidents, death, old age, retirement, and job loss.

In addition to facilitating employee participation in social security, the company has also instilled employee discipline to comply with work regulations by providing information every morning during roll call and posting information on safety posters and banners for employees to see and pay attention to. Furthermore, the company requires employees to wear personal protective equipment (PPE) such as helmets, clothing, and masks. The company's efforts strive to ensure employee safety at work. According to Mondy and Noe (2005), occupational safety is the protection of employees against any form of accident that may occur at work and result in injury or illness.

Occupational Health Characteristics in the Company

Occupational health components are measured using four indicators that characterize environmental conditions that ensure employee health at work. The results of the descriptive analysis of occupational health are shown in Table 4.

Table 4. Results of the Descriptive Analysis of Occupational Health

Occupational Health	Score					Total	Category	Level
	n(5)	n(4)	n(3)	n(2)	n(1)			
Waste Storage and Handling Areas	85	11 6	45	10	2	258	3,79	High
Availability of Clean Water	95	14 0	36	2	1	274	4,03	High
Condition of Restrooms and Handwashing Areas	75	12 4	45	10	2	256	3,76	High

Employee Health	65	16 4	33	4	1	267	3,93	High
						105 5	15,51	
Occupational Health Competencies	3, 88							

Table 4 shows that the average occupational health score was 3.88, categorized as high. This indicates that PT PLN (Persero) has prioritized occupational health for its employees.

Indicators of employee health that have been addressed and implemented by the company are reflected in waste management, clean water provision, toilets and handwashing facilities, and employee well-being in the event of illness or anxiety. The availability of health facilities directly impacts employee physical and mental health.

Occupational health can be achieved if the environment around employees is clean, tidy, and free from pollution or air pollution that is unpleasant for them. A clean, tidy, and unobtrusive environment creates a healthy environment, allowing employees to work with peace of mind. Mathis and Jackson (2006) define occupational health as a condition that refers to the physical, mental, and emotional stability related to work.

Employee Performance Characteristics

Employee performance is the ability and commitment of employees to complete specific tasks. Employee performance is measured through 12 indicators. More details are presented in Table 5.

Table 5. Results of Descriptive Analysis of Employee Performance

Employee Performance	Score					Total	Category	Level
	n(5)	n(4)	n(3)	n(2)	n(1)			
Honesty	70	15 2	42	4	0	268	3,94	High
Compliance	11 5	12 4	39	2	0	280	4,12	High
Leadership	70	15 2	48	0	0	270	3,97	High
Responsibility	85	16 0	33	0	0	278	4,09	High
Coordination	10 0	14 0	39	0	0	279	4,10	High
Work Targets	10 0	14 0	39	0	0	279	4,10	High
Absenteeism	11 0	14 4	30	0	0	284	4,18	High
Work Planning	10 5	13 6	39	0	0	280	4,12	High

Problem Solving	80	16 0	36	0	0	276	4,06	Hig h
Work Motivation	12	12 0	36	0	0	284	4,18	Hig h
Work Innovation	10	14 5	33	0	0	282	4,15	Hig h
Work Initiative	11	13 5	33	0	0	284	4,18	Hig h
						334 4	49,18	Hig h
Employee Performance Competencies	4,1 0							

Each employee's performance is determined by their individual workload, which can be assessed based on their capacity, capability, inspiration, and interest. Each employee is required to deliver high levels of performance to achieve productivity, while also possessing a persistent, skilled, and enthusiastic work ethic. Research shows that the performance of PT PLN (Persero) employees is categorized as high, as their work attitudes and mentality demonstrate obedience, initiative, discipline, adherence to work rules, and responsibility in carrying out their work.

Results of Further Tests: Relationship between Performance and Performance Factors

The relationship between employee performance and work environment performance factors was tested using PLS analysis. The results showed that the outer loading values for several variables were below 0.6, which, according to the PLS analysis model, is considered good if the majority of outer loading values are above 0.6. Variables with outer loading values above 0.6 were then selected. A more detailed explanation of the outer loading values is presented in Table 6.

Table 6. Outer Loading Results: Relationship between Performance and Work Environment Factors

variables	outer loading	variables	outer loading	variables	outer loading
X _{1.1}	0.811	X _{2.1}	0.827	X _{4.1}	0.858
X _{1.2}	0.794	X _{2.2}	0.650	X _{4.2}	0.805
X _{1.3}	0.780	X _{2.3}	0.846	X _{4.3}	0.868
X _{1.4}	0.733	X _{2.4}	0.815	X _{4.4}	0.743
X _{1.5}	0.770	X _{2.5}	0.864	Y ₁	0.792
X _{1.6}	0.750	X _{3.1}	0.749	Y ₂	0.821
X _{1.7}	0.694	X _{3.2}	0.741	Y ₃	0.832
X _{1.8}	0.820	X _{3.3}	0.820	Y ₄	0.829
X _{1.9}	0.824	X _{3.4}	0.583	Y ₅	0.851
X _{1.10}	0.837	X _{3.5}	0.826	Y ₆	0.844
X _{1.11}	0.737	X _{3.6}	0.600	Y ₇	0.693
X _{1.12}	0.675	X _{3.7}	0.761	Y ₈	0.838

X _{1.13}	0.757	X _{3.8}	0.815	Y ₉	0.844
X _{1.14}	0.800	X _{3.9}	0.817	Y ₁₀	0.795
		X _{3.10}	0.826	Y ₁₁	0.801
				Y ₁₂	0.825

Table 6 shows the outer loading results showing that the loading factor values are mostly above 0.6 and have positive values, which means that all exogenous and endogenous latent variables are valid and reliable

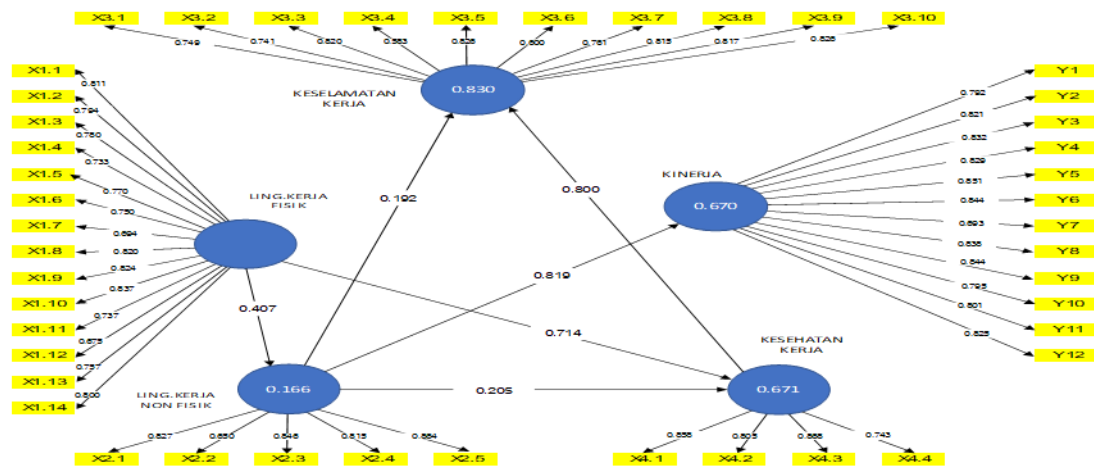


Figure 1. Model of the Relationship Between Employee Performance and Work Environment Factors

Table 7. Validity and Reliability Test Results

variables	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
Physical work environment	0.947	0.954	0.595
Non-physical work environment	0.861	0.901	0.647
Occupational safety	0.916	0.931	0.576
Occupational health	0.836	0.891	0.672
Performance	0.954	0.959	0.664

The validity and reliability test results in Table 7 indicate that the AVE value for each variable is greater than 0.5. This means that the indicators used to measure the research variables are valid and reliable. A model is considered sufficiently consistent if the variables have a composite reliability value exceeding 0.7 and a Cronbach's alpha value exceeding 0.7. Table 7 shows that all composite reliability and Cronbach's alpha values are greater than 0.7. Therefore, it can be concluded that the model of the relationship between employee performance and physical environmental factors, non-physical environmental factors, and occupational health and safety (Figure 1) is valid and reliable.

The employee performance model (Figure 1) found a significant R-squared relationship between work environment factors and employee

performance, contributing 83 percent. This means that 83 percent of employee performance is determined by the physical work environment, non-physical environmental factors, job security, and occupational health, while the remaining 17 percent is determined by factors outside the observed variables. Furthermore, to determine the significant influence of the employee performance model (Figure 1), the following path coefficient results are examined:

Table 8. Path Coefficient Results for the Relationship between Employee Performance and Work Environment Factors

relationship between variables	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
Occupational health → Occupational safety	0.800	0.787	0.069	11.668	0.000
Physical work environment → Non-physical work environment	0.407	0.431	0.128	3.192	0.002
Physical work environment → Occupational health	0.714	0.720	0.071	10.063	0.000
Non-physical work environment → Occupational health	0.205	0.202	0.088	2.338	0.020
Non-physical work environment → Occupational safety	0.192	0.206	0.072	2.686	0.007
Non-physical work environment → Performance	0.819	0.826	0.035	23.221	0.000

Table 8 shows the path coefficients of the employee performance model using the physical work environment, non-physical work environment, and occupational health and safety variables (Figure 1). The test results indicate an influential relationship between the variables in the employee performance model. The influence indicator is shown with a probability value less than 0.05. Overall, the direction of the influence indicates a positive trend.

The Influence of Occupational Health on Occupational Safety

Occupational health is a crucial aspect that companies must address so that employees can perform their work comfortably and calmly due to their physical and mental health. Optimal employee health will result in employees paying attention to workplace safety. This is linked to optimal occupational health through the availability of clean water, clean restrooms, and regular company-provided health checks for employees, including social security benefits in the event of illness or an accident. The company's attention to

occupational health will make employees more careful, obedient, and attentive to regulations and safety procedures.

The company enrolls all employees in the National Social Security program as a safety net against workplace accidents, occupational health, and old-age security. Hadiyanti and Setiawardani (2018) stated that factors influencing employee health and thus safety at work include a work environment that supports occupational health standards, such as the availability of toilets with clean water and proper waste disposal.

The Influence of the Physical Work Environment on the Non-Physical Work Environment

The physical work environment within a company is crucial for management to consider. A comfortable and orderly physical work environment will impact employees' psychological aspects, such as stress levels. A clean, comfortable, and orderly physical work environment will result in a happy mood, fostering positive social interactions between employees and management.

PT PLN (Persero) has designed a neat and comfortable work environment, including adequate lighting, air circulation, natural light, and even the availability of physical support facilities. This availability and creation of a physical environment fosters a non-physical environment, enabling interaction between employees and management at work.

The Influence of the Physical Work Environment on Occupational Health

The physical work environment influences occupational health. This can be explained by the fact that creating a physical environment, including the availability of work facilities and a comfortable, organized, and tidy space, will impact employee health because the physical work environment provides comfort and supports employee health.

Hadiyanti and Setiawardani (2018) state that the physical work environment encompasses the entirety of the materials and tools encountered by workers, job analysis, job organization, and the immediate environment in which workers perform their activities, both individually and within work groups. To ensure good and conducive worker health, the work environment must also be well-organized and safe (Sari, 2017).

The Influence of the Non-Physical Work Environment on Occupational Health

A supportive work environment will directly and indirectly influence employees' work performance. The work environment can influence boredom, fatigue, and monotony (Newstrom and Davis, 2007). A poor non-physical work environment, where conflict occurs between employees and management, is feared to reduce employee morale. Work will feel unpleasant, and when employees feel stressed, it will affect their health, which will ultimately reduce their abilities.

The Impact of the Non-Physical Work Environment on Occupational Safety

A non-physical work environment, characterized by harmonious work atmosphere, where communication between subordinates and superiors (vertical relationships) and among employees (horizontal relationships) occurs. Harmonious communication will create a sense of well-being in the workplace and employee confidence in carrying out their duties. This environment will also

foster good communication and cooperation, fostering workplace safety. This aligns with Wursanto's (2009) opinion, which defines the psychological work environment as something related to the psychological aspects, namely the mind and soul of the individual as a workforce within the workplace.

The Impact of the Non-Physical Work Environment on Employee Performance

Creating a comfortable, healthy, safe, and enjoyable work environment for employees will create a happy and enjoyable atmosphere in interactions with both employees and management. A comfortable, friendly, interactive, and even reciprocal work environment creates a work atmosphere that is enthusiastic, obedient, and persistent, resulting in productive work. Ahyari (2002) stated that an important factor in the non-physical work environment that should not be overlooked is employee relationships within the company, which are related to producing productive work. Furthermore, Sedarmayanti (2009) stated that it is crucial to create a productive work environment if co-workers can work together and avoid disputes that could undermine the work environment and work enthusiasm.

CONCLUSIONS AND RECOMMENDATIONS

The study concluded that employee performance at PT. PLN (Persero) UP3 Manokwari is categorized as high. Non-physical environmental factors directly influence employee performance, while physical environmental factors indirectly influence employee performance through the non-physical environment. Occupational safety and health factors do not affect employee performance. There is a relationship between physical and non-physical environmental factors on occupational health and safety.

FURTHER STUDY

This research still has limitations, so further research is needed regarding the topic of the relationship between employee performance and wages received by employees in the company to perfect this research and increase insight for readers.

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