

The Influence of Work Ability, Work Discipline and Work Environment on Employee Performance

Adenanthera L. Dewa^{1,*}

¹ Faculty of Economics and Business, Universitas Maritim AMNI, Semarang, Central Java 50246, Indonesia

* Corresponding author: Adenanthera L. Dewa (aldewa.unimaramni@gmail.com)

Abstract

Work ability is one of the problems that occurs almost throughout the world which requires serious handling considering that it greatly influences employee performance factors. The aim of this research is to analyze the influence of the independent variable on the dependent variable. With a population of all employees at the Steam Power Plant (*Pembangkit Listrik Tenaga Uap* or PLTU) Tanjung Jati B Jepara and a sample of 110 respondents was taken. With a simple random sampling type probability sampling technique, data collection uses a questionnaire, the data analysis technique used is multiple regression analysis techniques including validity testing, reliability testing, classical assumption testing, and hypothesis testing. From the research results, there is a relationship between the independent variable and the dependent variable. Hypothesis testing using the t test shows that the three independent variables, namely work ability, work discipline, work environment, which were studied were proven to have a positive and significant effect on the dependent variable. namely the employee performance factor, with the work ability variable having the highest influence than the other variables in influencing employee performance factors, hypothesis testing using the f test shows that the three independent variables simultaneously have a positive and significant effect on the employee performance. In addition, 60% of the variation in the dependent variable of employee performance factors can be explained by the independent variables of work ability, work discipline and work environment. Meanwhile, the remaining 40% is explained by other causes outside the variables.

Keywords

Work Ability, Work Discipline, Work Environment, Employee Performance, PLTU

1. Introduction

The steam power plant, known as *Pembangkit Listrik Tenaga Uap* (PLTU) in Indonesian, is one of the fundamental technologies for generating electricity. PLTU technology is employed by nearly all thermal-based power plants. The Tanjung Jati B Steam Power Plant is situated in Tubanan Village, Kembang District, Jepara Regency, on the north coast of Central Java. It is approximately 125 km from Semarang and about 25 km from Jepara, positioned at 60° 26' South Latitude and 110° 44' East Longitude. The plant comprises a total of 4 units, with each unit boasting a gross power capacity of 4 x 719 MW and a net power capacity of 4 x 660 MW, covering an area of 150 hectares. This PLTU is powered by coal, which is transported by sea and originates from Kalimantan.

Work ability is one element of maturity related to knowledge or skills that can be acquired through education, training, or experience (Thompson & Heron, 2005). This ability can be explored through formal or informal education and gained through work experience. Greenhow & Lewin (2019) define ability as an individual's capacity to perform various tasks in a job. An individual's abilities can be categorized into two main groups: intellectual and physical. Intellectual ability encompasses the capacity for various mental activities, such as thinking, reasoning, and problem-solving (Schmeichel et al., 2018). Intellectual abilities play a more significant role in complex jobs with demanding information processing requirements. In contrast, physical abilities are essential for jobs that require fewer skills and have more standardized tasks.

In general, good work discipline exists when employees regularly and punctually attend the office or company, dress appropriately for work, use materials and equipment carefully, produce work of satisfactory quantity and quality, and adhere to the work methods established by the company while maintaining a positive attitude. Discipline is a condition that encourages employees to act in accordance with established norms and rules (Elqadri & Wardoyo, 2015). Work discipline is defined as an employee's adherence to company rules and regulations driven by awareness and conscience, without any element of coercion.

The work environment is the space where employees engage in their daily activities. A good or suitable work environment enables employees to perform their tasks optimally, ensuring their health, safety, and comfort (Dheviests & Riyanto, 2020). It is described as the conditions in and around the workplace, encompassing both physical and non-physical aspects, that create a pleasant, reassuring, and 'at-home' atmosphere for employees (Raziq & Maulabakhsh, 2015). The quality of the work environment plays a significant role in influencing the performance of employees. A comfortable work environment with smooth communication among employees is a key factor in achieving maximum performance.

From these statements, it can be concluded that employee performance is influenced by several factors, including the alignment of human resources with their respective fields of expertise. Therefore, employee performance should be enhanced through various training programs designed to develop their skills in line with their roles within the company. Furthermore, a conducive work environment is essential for ensuring employee comfort and, subsequently, improving their performance.

The issue addressed in this research pertains to the employees' inability to meet the criteria set by PLTU Tanjung Jati B. Consequently, many employees require specialized training to

enhance their skills and align them with their designated roles (Rivaldo & Nabella, 2023). This issue should be addressed to ensure that employees can effectively work within their respective fields. The work environment at PLTU Tanjung Jati B can also significantly impact employee performance. Additionally, providing good facilities can enhance the performance of employees at PLTU Tanjung Jati B.

In addition, good work discipline, which includes punctuality and adherence to procedures, fosters an organized and efficient work environment, thereby enhancing overall employee performance. Finally, a supportive work environment, characterized by effective communication and a positive atmosphere, serves as a motivator for employees, ultimately increasing their productivity (Raziq & Maulabakhsh, 2015). Therefore, having a deep understanding of the positive impact of work ability, work discipline, and a positive work environment is key to enhancing employee performance at PLTU Tanjung Jati B Jepara. Analyzing these factors can assist management in formulating suitable strategies, cultivating a conducive work environment, and providing the necessary support to enable employees to deliver optimal results. This approach enables companies to achieve their goals with greater effectiveness and efficiency.

2. Literature Review and Hypothesis Development

Employees are a very important element of human resources for the company. The performance achieved by employees contributes to the overall success of the company. If the company has quality human resources, the performance achieved by the company will also increase. In practice, companies need information about employee performance. This information is useful for several purposes, for example to increase salaries, promotion needs, transfers or to control irregularities that may occur (Chuzaimah, 2014). An employee's performance is an individual matter because each employee has a different level of ability in carrying out their duties. Management can measure employees for their performance based on the performance of each employee.

The performance action itself consists of many components and is not a result that can be seen immediately. Basically, performance is something that is individual, because each employee has a different level of ability in carrying out their duties (Diamantidis & Chatzoglou, 2018). a certain time and the emphasis are on the work results completed by employees within a certain time. Performance in an organization is the answer to the success or failure of the organizational goals that have been set. Performance is the output produced by the functions or indicators of a job or profession within a certain time. Performance is the result of work in terms of quality and quantity achieved by an employee in carrying out his duties in accordance with the responsibilities given to him (Potu, 2013). Performance is the result or level of success of a person during a certain period in carrying out tasks compared to various possibilities, such as standard work results, targets or goals or criteria that have been determined in advance and have been mutually agreed upon.

The achievement motive that is grown from within oneself will form a personal strength and if the work environment is supportive then achieving performance will be easier. Factors that influence performance are individual factors, psychological factors, and organizational factors (Risqon & Purwadi, 2012). Human Resources or manpower, abbreviated as HR, are the abilities that every human being has. Ability is the thinking power and physical power possessed by

everyone which is obtained from effort (learning and training). Behavior and traits are determined by heredity and environment, while work performance is motivated by the desire to fulfill one's satisfaction. Capability is an effort to improve the technical, theoretical, conceptual, and moral abilities of employees in accordance with the needs of the job, position through education and training. Helfat & Peteraf (2015) defines ability as an individual's capacity to carry out various tasks in a job. An individual's abilities basically consist of two groups, namely intellectual and physical. Intellectual ability is the ability needed to carry out various mental activities – thinking, reasoning, and solving problems.

Based on the description above, it can be concluded that work ability can be defined as the potential possessed by employees obtained through education, training, or development to carry out certain work tasks as actions that are rational, meet certain scientific specifications in carrying out their duties and can be used to predict behavior and performance. revealed that abilities directly influence the level of performance and satisfaction of an employee through ability-job match. The result is that motivation and ability have an influence on the performance of service sellers (Chuzaimah 2014).

Ability is one of the elements of maturity related to knowledge or skills that can be obtained from education, training, or experience. The medium for exploring this ability can be done through formal or informal education and can also be done through work experience. Defining ability as an individual's capacity to carry out various tasks in a job. An individual's abilities basically consist of two groups, namely intellectual and physical. Intellectual ability is the ability needed to carry out various mental activities of thinking, reasoning, and solving problems. At the same level, intellectual abilities play a greater role in complex jobs with demanding information processing requirements. Meanwhile, physical abilities are certain abilities that are important for the success of jobs that require less skills and are more standardized.

Work Discipline according to systematic process of changing the behavior of employees in a direction to improve organizational goals. In training, an environment is created where employees can acquire or learn specific attitudes, abilities, skills, knowledge, and behavior related to work. Work Discipline is a relationship between increasing general knowledge and understanding of the work environment as a whole and an effort to increase an employee's knowledge and skills to do a particular job (Supihati, 2014).

A systematic learning and training process to improve their competence and performance in their current job and prepare themselves for future roles and responsibilities." The general goal of each work discipline program is so that each follower can carry out work tasks more efficiently. In connection with the goals achieved in achieving good work, the term discipline applies to implementing employees. Discipline is a term that refers to planned efforts designed to facilitate the required skills, knowledge, and attitudes appropriate to the company (Osagie et al., 2016). defines discipline as the process of teaching new or current employees the basic discipline they need to perform their jobs. Discipline is providing specific, identifiable knowledge and skills to employees to use in their current jobs. Discipline are programs to improve the ability to carry out work individually or in groups based on position level in the organization/company (Kusuma & Said, 2017).

The environment is divided into two groups, namely material conditions, and psychological conditions. Within these limits, the work environment does not only concern the physical

environment of the place of work, but also includes physical and psychological aspects caused by the physical environment and the work itself, which will shape employees towards the work environment (Supihati, 2014). The work environment is the environment in which employees work, while the working conditions are the conditions in which the employee works. The work environment has an influence on employee performance. Performance is influenced by work facilities, light, air, etc., all of which are included in the work environment. A work environment that is less supportive in carrying out work contributes to poor performance such as a lack of work tools, stuffy workspace, lack of ventilation and unclear procedures (Chuzaimah 2014).

Furthermore, he explained that the work facilities and infrastructure that exist in the work organization environment as supporting factors for work operations are very necessary, this is intended to facilitate work or activity movement in its management, so it is necessary to have good equipment, sufficient to suit needs, efficient and effective and practical. in its use. Kusuma & Said (2017) work environment is something around employees that can influence work, including lighting arrangements, noise control, workplace cleanliness and workplace safety arrangements.

The work environment is a place where employees carry out activities every day. The work environment is said to be good or appropriate if employees can carry out activities optimally, healthily, safely, and comfortably (Potu, 2013). states that the work environment is the condition around the workplace, both physical and non-physical, which can give the impression of being pleasant, calming, reassuring and the impression of being at home at work, etc. The work environment plays an important role in the quality of employee performance results. If the work environment is comfortable and communication between employees runs smoothly, then you can be sure that the resulting performance will be maximum (Potu, 2013).

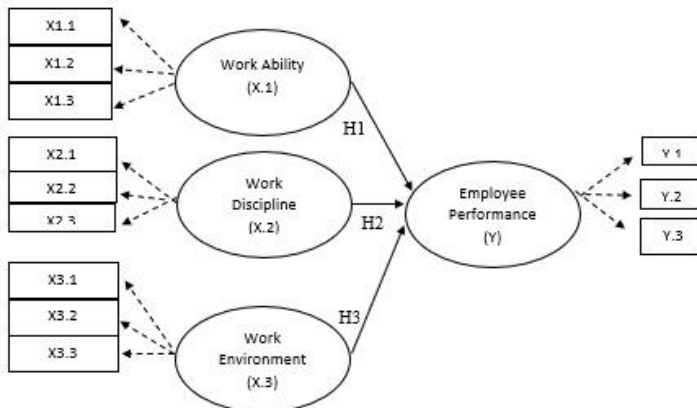


Figure 1. Research Framework

H1: Work ability has a positive and significant effect on the employee performance

H2: Work discipline has a positive and significant effect on the employee performance

H3: Work environmental has a positive and significant influence on the employee performance

3. Research methods

This research employs a quantitative approach and utilizes the Statistical Package for the Social Sciences (SPSS) for data analysis. In this study, both dependent and independent variables are employed. The operational definition employed is analytical research, specifically survey research. This type of research aims to collect, compile, analyze, and interpret data to ultimately draw conclusions based on data analysis. This definition is intended to provide a detailed description of specific variables within the study, making it easier for observation and measurement through operational indicators.

The variables under investigation in this research are those that influence employee performance at PLTU Tanjung Jati B in Jepara. To determine the sample size, 150 employees were considered, with a margin of error of 5%, resulting in a sample size of 110 employees. The determination of the sample size from the population is based on the Slovin formula approach. Considering the available data on employee specifications, which indicates 150 employees, the sample size used in this research is 110 employees (rounded up for convenience). Probability sampling was employed in this study as it ensures that each employee has an equal opportunity to be selected. The research adopted the Simple Random Sampling technique, selecting sample members randomly without stratification within the population.

4. Results and Discussion

The validity test is used to test the extent to which the accuracy of the measuring instrument can express the concept of the symptom/event being measured. The validity of all concepts used in this research can be explained in Table 1.

Table 1. Validity Test Results

No	Variable and Item	.r count	.r table	Confirmation
1.	Work ability (X1)			
	Item X1.1	0.832	0.2446	Valid
	Item X1.2	0.715	0.2446	Valid
	Item X1.3	0.789	0.2446	Valid
2.	Work discipline (X2)			
	Item X2.1	0.787	0.2446	Valid
	Item X2.2	0.811	0.2446	Valid
	Item X2.3	0.801	0.2446	Valid
3.	Working environment (X3)			
	Item X3.1	0.708	0.2446	Valid
	Item X3.2	0.822	0.2446	Valid
	Item X3.3	0.790	0.2446	Valid
4.	Employee performance (Y)			
	Item Y.1	0.841	0.2446	Valid
	Item Y.2	0.811	0.2446	Valid
	Item Y.3	0.758	0.2446	Valid

Based on Table 1, it can be explained that all research indicators used to measure variables have a correlation coefficient $> r$ table (r table for $n = 110$ is 0.1857). Reliability testing is used to test the extent to which a measurement tool is reliable so that it can be used again for the same research. Based on the alpha (α) formula, a reliability coefficient is obtained for each research variable.

Table 2. Reliability Test Results

Research variable	Alpha Coefficient	Conclusion
Work ability (X1)	0.773	Reliable
Work discipline (X2)	0.716	Reliable
Working environment (X3)	0.768	Reliable
Employee performance (Y)	0.725	Reliable

Based on the result presented in Table 2, the research variables all possess Alpha coefficients greater than or equal to 0.70 , signifying the reliability of the concepts used for variable measurement based on questionnaire responses and enabling further statistical calculations. The normality test is applied to assess the suitability of the linear regression model in the context of time-ordered sample members and to diagnose potential autocorrelation in the regression model. Notably, the analysis reveals a significant correlation between the work discipline and work ability variables, with a correlation coefficient of -0.648 , which, while relatively high, remains below 0.90 , indicating the absence of multicollinearity.

To identify deviations related to multicollinearity, it can be explained through the examination of VIF (Variance Inflation Factor), and Tolerance values obtained from regression test results. For a regression model to be considered free of multicollinearity, the tolerance value should be close to 1 , indicating no multicollinearity issue. Conversely, if the tolerance value deviates significantly from 1 , it suggests a problem with multicollinearity. The tolerance values for each variable can be observed in the regression coefficients table. In this study, multiple linear regression analysis was employed to assess the impact of work ability, work discipline, and work environment on employee performance, and the results of the multiple linear regression equation were obtained through calculations.

Table 3. Linear Regression Equation Test Results

		Coefficients			t	Sig.
Model	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Beta			
1	(Constant)	-.173	.978		-.177	.860
	Work Ability	.329	.078	.346	4.187	.000
	Work Discipline	.408	.087	.368	4.677	.000
	Work Environment	.241	.070	.236	3.427	.001

a. Dependent Variable: Employee Performance

The form of the multiple linear regression equation can be written

$$Y = - 0.173 + 0.329. X_1 + 0.408. X_2 + 0.241. X_3 + \mu$$

The results from Table 3 and the equation can be explained as follows. The work ability variable has a positive regression coefficient of 0.329, indicating that it positively influences employee performance. For each one-unit increase in work ability, there is a corresponding increase in employee performance by 0.329 units. Similarly, the work discipline variable has a positive regression coefficient of 0.408, signifying a positive influence on employee performance. Each one-unit increase in work discipline results in a positive effect on employee performance by 0.408 units. Additionally, the work environment variable exhibits a positive regression coefficient of 0.241, indicating its positive contribution to employee performance. For every one-unit increase in the work environment variable, there is a positive impact on employee performance by 0.241 units.

To determine the relationship or influence of the independent variables (work ability, work discipline, and work environment) on the dependent variable (employee performance), statistical testing was performed for each variable. The statistical test yielded an F value of 53.083. The table F value for degrees of freedom (df) 1 = k = 3 and df 2 = n – k = 110 – 3 = 107 is 2.126. Using a significance level of 5%, the obtained F value (53.083) surpasses the table F value (2.126). Thus, the null hypothesis in this study is rejected, and the alternative hypothesis is accepted. In conclusion, the variables work ability, work discipline, and work environment have a positive and significant influence on employee performance when considered together.

Table 4. F Test Results

ANOVA^b					
Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	172,041	3	57,347	53,083	,000 ^a
Residual	114,514	106	1,080		
Total	286,555	109			

a. Predictors: (Constant), Work Environment, Work Discipline, Work Ability

b. Dependent Variable: Employee Performance

Certainly, here's the revised text with in-text citations:

The coefficient of determination, or R², is employed to determine the extent to which the dependent variable is influenced. In our calculations, we obtained a coefficient of determination (R²) value of 0.600, signifying that 60% of employee performance is influenced by the variables of work ability, work discipline, and work environment. The remaining 40% is influenced by other unexplored variables. The tests presented in Table 4 confirm that the independent variables, namely work ability, work discipline, and work environment in the PLTU Tanjung Jati B Jepara area, significantly influence the dependent variable, employee performance, corroborating previous findings by Pawirosumarto et al. (2017).

Analysis of the variables demonstrates that work ability plays a significant and positive role in influencing employee performance. This finding is consistent with Diamantidis &

Chatzoglou's (2018) assertion that work ability enhances employee performance by improving task completion efficiency, increasing job satisfaction, and fostering a proactive work approach, ultimately contributing to higher productivity and job performance. Work ability encompasses task knowledge, work skills, and work experience, all of which contribute to employee performance at PLTU Tanjung Jati B Jepara. Among the three variables affecting employee performance, work discipline ranks second. This variable includes absenteeism, work delays, and workplace errors that impact employee performance, supporting previous research by Badrianto & Ekhsan (2020).

Lastly, the work environment occupies the third position. Factors such as infrastructure, cleanliness, and safety significantly affect employee performance as they carry out their job duties. From a managerial standpoint, ensuring workplace safety, health, and cleanliness is essential. The management, along with the Public Works Department, should provide the necessary infrastructure and personal protective equipment, guiding employees in their correct and proper usage (Pawirosumarto et al., 2017). Maintaining a clean work environment is crucial for employee health and overall work performance. Additionally, prioritizing safety at work fosters a sense of comfort and can lead to improved employee performance while fulfilling their responsibilities.

5. Conclusion

The coefficient of determination indicates that 60% of employee performance at PLTU Tanjung Jati B Jepara is significantly influenced by the variables of work ability, work discipline, and work environment. This underscores the positive role of work ability in enhancing employee performance, attributed to its impact on task efficiency, job satisfaction, and proactive work approaches. Work discipline, ranking second, affects performance by addressing absenteeism, work delays, and workplace errors. The work environment, occupying the third position, plays a vital role by ensuring infrastructure, cleanliness, and safety, influencing employee performance. These findings emphasize the need for organizations to prioritize and enhance these factors to optimize employee performance, fostering task knowledge, skills, and work experience, reducing absenteeism and delays, and ensuring a safe, clean work environment that promotes employee health and performance.

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