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## The effect of work discipline and work environment on the performance of employees of the public works, housing, and energy department of mineral resources

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### Abstract

Human resources that act as implementers are the main aspects of the agency, but often become problems in an organization or agency including the Public Works, Housing and Energy Mineral Resources Office. It was found that employee performance achievements in 2022 did not reach targets throughout the year. In addition, the late attendance rate of employees is above 50% and inadequate facilities and infrastructure. The purpose of this study was to determine the effect of work discipline and work environment on the performance of employees of the Public Works, Housing and Energy Department of Mineral Resources. The research method is casual associative with a quantitative approach. The independent variable is work discipline and work environment, while the dependent variable is employee performance. The research instruments are questionnaires and IBM SPSS applications. Sampling by saturation sampling of 120 respondents. Data analysis techniques are descriptive analysis and multiple regression analysis. The results showed that work discipline and work environment simultaneously had a positive effect on the performance of employees of the Public Works, Housing and Energy Department of Mineral Resources by 0.233 ( $p < 0.05$ ) and 0.389 ( $p < 0.001$ ) respectively with a contribution of 14% ( $\Delta R^2 = 0.140$ ).

**Keywords:** Work discipline, work environment, employee performance

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### 1. Introduction

Human resources are the main aspect of the agency, which acts as an implementer of operational activities from the lowest level to the top level. The quality of good human resources then the resulting performance will affect the development of agencies or organizations. The problem that agencies often face in achieving goals is poor performance of employees. Performance is the result of work that has a strong relationship with the strategic objectives of the organization, customer satisfaction and contributes to the economy (Amstrong, 2009) <sup>[1]</sup>. Employee performance will affect how measured through indicators such as quantity of work, quality of work, and timeliness in task completion (Zaputri, Rahardjo and Hamidah, 2013) <sup>[11]</sup>.

One of the agencies that pays attention to the importance of employee performance is the Public Works, Housing and Mineral Resources Energy Office. The Department of Public Works, Housing and Mineral Resources Energy is a government agency engaged in the construction services sector, management of urban wastewater and drinking water infrastructure and supervision, control of mineral resources energy licensing. The Department of Public Works, Housing, and Energy and Mineral Resources has problems related to low employee performance assessed from employee work targets or Sasaran Kinerja Pegawai (SKP). The results of the preliminary study (table 1) show that throughout 2022, employee performance achievements did not reach the set target of 86%. In addition, the output of work such as asphalt patching is still found the result of untidy and bumpy paving. Untimely branch office performance also hampers the work process of the head office.

**Table 1:** SKP Assessment Data of the Public Works, Housing and Energy Agency of Mineral Resources in 2022

No.	Month	Achievement Score
1.	January	84,60%
2.	February	84,37%
3.	March	84,21%
4.	April	84,11%
5.	May	84,53%
6.	June	84,77%
7.	July	84,41%
8.	Agustus	84,67%
9.	September	84,75%
10.	Oktober	84,55%
11.	November	84,55%
12.	Desember	84,69%

**Resources:** Primary data

Performance is a multidimensional construct that includes many influencing factors, including: individual factors, leadership factors, team factors and system factors (Mahmudi, 2010) <sup>[5]</sup>. In the preliminary study, an employee opinion survey was also conducted to get an overview of

factors that can affect employee performance. The survey results (table 2) show that the factor with the highest percentage is work discipline at 20% and followed by the work environment at 17.5%.

**Table 2:** Survey Results of Factors Affecting Employee Performance in Public Works, Housing, and Energy of Mineral Resources

No.	Factor	Frequency	Percentage
1.	Leadership style	6	15%
2.	Work Environment	7	17,5%
3.	Work Discipline	8	20%
4.	Motivation	5	12,5%
5.	Workload	5	12,5%
6.	Work Satisfaction	6	15%
7.	Commitment	3	7,5%

**Resources:** Survey data

Work discipline is a management action to encourage members of the organization to meet the demands of various provisions (Siagan, 2014) <sup>[8]</sup>. The existence of work discipline means that employees cannot take actions that can harm the organization. Work discipline is an attitude of respect, respect, obedience, and obedience to applicable regulations, both written and unwritten and able to carry them

out and not avoid receiving sanctions (Ardana, Mujiati and Utama, 2011) <sup>[2]</sup>. Based on data from the General Subsection (table 3), it was found that the percentage of delays in 2022 exceeded 50%, which illustrates a very low level of employee discipline. Based on observations during preliminary studies, employees are still found who do not wear uniforms in accordance with daily clothing provisions.

**Table 3:** Late Attendance Data of Employees of the Department of Public Works, Housing and Energy of Mineral Resources in 2022

No. Month	Number of Late Employees	Percentage
1. January	133	65,52%
2. February	140	68,97%
3. March	127	62,56%
4. April	129	65,15%
05-May	119	61,98%
6. June	111	59,09%
7. July	121	69,14%
8. August	100	57,14%
9. September	93	53,14%
10. October	91	52,00%
11. November	116	66,29%
12. December	94	53,71%
Rata-Rata	114	61,22%

**Resources:** General Sub-division

The work environment makes employee facilities in carrying out tasks, so that it can facilitate and help work more optimally. Work Environment is the overall facilities and infrastructure around employees who are doing work so that it can affect the implementation of work (Sutrisno, 2012) <sup>[9]</sup>. It was found that the workspace was inadequate because there was no barrier between employee desks and was

accommodated for 30 people. The work environment has indicators that need to be considered such as working atmosphere, relationships with colleagues, and the availability of work facilities (NitiseMITO, 1996) <sup>[6]</sup>. Facilities of working tools such as computers are also time to be replaced with new ones to support work to be optimal, effective and efficient.

The problem of performance achievements that do not reach the target is followed by findings of low levels of employee discipline and inadequate facilities and infrastructure. Therefore, researchers conducted research on the influence of work discipline and work environment on employee performance at the Department of Public Works, Housing and Energy Mineral Resources.

## 2. Methods

This research method is a casual associative method with a quantitative approach. The study was conducted in January –

April 2023 at the Department of Public Works, Housing and Energy of Mineral Resources. Data collection techniques use surveys and observations. The instruments used were questionnaires and the IBM SPSS application. The types of research data are primary and secondary data. The independent variables of this study are work discipline and work environment while the dependent variable is employee performance. The study population amounted to 120 employees and sampling by saturation sampling technique. The data analysis techniques used are descriptive analysis and multiple linear regression analysis.

**Table 4:** Descriptive Analysis of Respondents Characteristics Results

Characteristics	Frequency	Percentage
<b>Gender</b>		
Male	72	60,0%
Female	48	40,0%
Total	120	100%
<b>Age</b>		
21-30 Years	29	24,2%
31-40 Years	32	26,7%
41-50 Years	32	26,7%
51-60 Years	27	22,5%
Total	120	100%
<b>Last Education</b>		
Senior High School	42	35,0%
Diploma	13	10,8%
Bachelor	60	50,0%
Master	5	4,2%
Total	120	100%
<b>Length of Work</b>		
1-10 Years	61	50,8%
11-20 Years	24	20,0%
21-30 Years	19	15,8%
31-40 Years	16	13,3%
Total	120	100%

**Table 5:** Descriptive Analysis of Variable Data Distribution Results

Variable	Min	Max	Mean	SD
Work Discipline	15	32	24,7250	5,23396
Work Environment	15	28	22,7917	2,85768
Employee Performance	12	24	19,1833	2,03327

**Table 6:** Variable Categorization

Category	Interval Score	Frequent	Percentage
<b>Work Discipline</b>			
High	$X > 29,96$	31	25,8
Medium	$19,49 < X < 29,96$	68	56,7%
Low	$X < 19,49$	21	17,5%
Total		120	100%
<b>Work Environment</b>			
High	$X > 25,86$	23	19,2%
Medium	$20,14 < X < 25,86$	82	68,3%
Low	$X < 20,14$	15	17,5%
Total		120	100%
<b>Employee Performance</b>			
High	$X > 21,22$	17	14,2%
Medium	$17,15 < X < 21,22$	92	76,7
Low	$X < 17,15$	11	9,2%
Total		120	100%

**3. Results**

**A. Characteristics of Respondent**

Data collection was carried out using questionnaires given to 90 respondents. Descriptive analysis of respondents' characteristics was conducted based on gender, age, recent education and length of employment. The results of the analysis (table 2) showed the dominant characteristics of research respondents according to their respective categories, including: male gender (60%), age groups 31-40 years (26.7%) and 41-50 years (26.7%), last education bachelor

(50%), and length of work 1-10 years (50.8%).

**B. Variable Categorization Descriptive Analysis**

Variable categories describe respondents' responses to research variables categorized into high, medium, and low. The categorization results (table 4) showed that most: respondents' work discipline was moderate (56.7%); respondents' work environment was moderate (68.3%); and employee performance is moderate (92%).

**C. Classical Assumption Test**

**1. Normality Test**

Normality Test of data is using Kolmogorov-Smirnov test with hypothesis that H0 is normal distributed residual data

and Ha is normal undistributed residual data. The results of the data normality test (table 5) show that the significance value is 0.977 which is greater than 0.05 so that H0 is acceptable. Then it can be concluded that the data is normally distributed.

**Table 7:** Normality Test Results

Variable	Asymp. Sig (2-tailed)	Interpretation
Residual performance variables, work discipline, work environment	0,977	Normal

**2. Linearity Test**

Linearity tests are carried out on independent variables to dependent variables to determine the relationship between these variables is linear or not. The results of the statistical test (table 6) show that the significance of the variables of work discipline (0.953) and work environment (0.052) is greater than 0.05 so that it can be stated that the relationship between the dependent variable is linear.

**Table 8:** Linearity Test Results

Variable	Significant	Keterangan
Work Discipline	0.953	Linier
Work Environment	0.052	Linier

**3. Multicollinearity Test**

Multicollinearity test is carried out between independent variables in research to determine the amount of inlerlation. The results of the statistical test (table 7) showed that the tolerance values of the two variables were 0.997 > 0.1 and the VIF values of the two variables were 1.003 < 10. So it can be concluded that there is no multicollinearity between dependent variables.

**Table 9:** Multicollinearity Test Results

Variable	Tolerance	VIF
Work Discipline	0,997	1,003
Work Environment	0,997	1,003

**3. Multiple Regression Analysis**

**The hypotheses proposed in this study are**

**Hypothesis I:** Work discipline has an influence on the performance of employees of the Department of Public Works, Housing and Energy of Mineral Resources

**Hypothesis II:** Work environment has an influence on the performance of employees of the Department of Public Works, Housing and Energy of Mineral Resources

**Hypothesis III:** Work discipline and work environment have an influence on the performance of employees of the Department of Public Works, Housing and Energy of Mineral Resources

The results of the statistical test (table 9) show that in the Model 2 column ( $\beta$ ), the discipline variable has a positive effect of 0.285 ( $p < 0.001$ ) on employee performance with a contribution ( $\Delta R^2$ ) of 0.074 ( $p < 0.001$ ) so that it can be stated that hypothesis I can be accepted. The results of statistical tests (table 9) of work environment variables positively affect 0.419 ( $p < 0.001$ ) on employee performance with a contribution ( $\Delta R^2$ ) of 0.166 ( $p < 0.001$ ) so that hypothesis II can be accepted. In the results of statistical tests (table 9), there was a simultaneous positive influence of the work discipline variable of 0.233 ( $p < 0.01$ ) and the work environment of 0.389 ( $p < 0.001$ ) on employee performance with a large contribution ( $\Delta R^2$ ) of 0.140 so that it can be stated that hypothesis III is acceptable.

**Table 10:** Multiple Regression Analysis Results

Variable	Employee Performance			
	Model 1 ( $\beta$ )	Model 2 ( $\beta$ )	Model 3 ( $\beta$ )	Model 4 ( $\beta$ )
Gender	-122	-174	-77	-124
Age	-235	-234	-226	-226
Last	0,315**	0,373***	0,240*	0,292**
Education				
Length of work	0,410***	0,470***	0,330**	0,385**
Work Discipline		0,285***		0,233**
Work Environment			0,419***	0,389**
R2	0,186***	0,259***	0,351***	0,400**
AR	186	74	166	140

\*\*\*p < 0,001; \*\*p < 0,01; \*p < 0,05

#### 4. Discussions

##### A. The effect of work discipline on employee performance

The variable of work discipline has a positive effect on employee performance by 0.285 ( $p < 0.001$ ) so that if work discipline increases, employee performance will also increase. It can be concluded that hypothesis I is accepted, then work discipline has an influence on the performance of employees of the Department of Public Works, Housing and Energy of Mineral Resources. The value of  $\Delta R^2 = 0.074$  indicates a large contribution of 0.07% to employee performance. In addition, it was found that most respondents were in the medium category of work discipline variables.

The medium category of work discipline variables is the dominant category reflecting the sense of responsibility of employees to the agency because they have not complied with the established regulations. Discipline is a person's awareness and willingness to obey all applicable rules and social norms (Hasibuan, 2010) [3]. This supports the results of research that work discipline variables have a positive effect on employee performance. When employees have high awareness and discipline, obstacles to task implementation will be eliminated. This is in accordance with the results studies in Great Hall of the Basin Pemali Juana that show work discipline has a positive and significant effect on employee performance (Khasifah and Nugraheni, 2016) [4].

##### B. The Effect of the Work Environment on Employee Performance

The work environment variable has a positive effect on employee performance by 0.419 ( $p < 0.001$ ) so that if the work environment increases, employee performance will also increase. It can be concluded that hypothesis II is accepted, then the work environment has an influence on the performance of employees of the Public Works, Housing and Energy Department of Mineral Resources. The value of  $\Delta R^2 = 0.166$  indicates a contribution of 16.6% to employee performance. In addition, it was found that most respondents were in the medium category of work environment variables. A comfortable and safe work environment can create a conducive atmosphere for employees so that they can focus more on work. Room facilities are inadequate because they function beyond the proper capacity, employee work rooms are accommodated for 30 people and there are no partitions between employee desks. A narrow space and no privacy restrictions between employees can distract employee focus so that they cannot work optimally. Everything that is around the worker can affect him in carrying out the tasks charged (Nitisemito, 1996) [6]. If the work environment is not ergonomic, then employee comfort is also disturbed so that it will affect employee performance. This can cause employee work outcomes to be not qualified, effective, or efficient. The results of other studies also show that there is a positive influence of the work environment on employee performance (Yudiningsih, Yudiaatmaja and Yulianthini, 2016) [10].

##### C. The Influence of Discipline and Work Environment on Employee Performance

Discipline variables and work environment positively affect employee performance by 0.233 ( $p < 0.05$ ) and 0.389 ( $p < 0.001$ ) so that if discipline and work environment increase, employee performance will also increase. It can be concluded that hypothesis III is accepted, then discipline and work environment have an influence on the performance of employees of the Public Works, Housing and Energy

Department of Mineral Resources. The value of  $\Delta R^2 = 0.140$  indicates the contribution of both variables simultaneously is 14.0% to employee performance.

Work discipline and work environment together affect employee performance. The level of employee discipline is low, reflecting low awareness of responsibility as an employee. However, a work environment that is not conducive will hamper employee performance. Both of these things will exacerbate the burden for employees while working, causing performance targets difficult to achieve (Runtuuwu, Lopian and Dotulong, 2015) [7].

#### Conclusion

1. Work discipline variables have an influence on the performance of employees of the Public Works, Housing and Energy Department of Mineral Resources. Work discipline had a positive effect of 0.285 ( $p < 0.001$ ) with a contribution of 0.07% ( $\Delta R^2 = 0.07$ ).
2. Work environment variables have an influence on the performance of employees of the Public Works, Housing and Energy Department of Mineral Resources. The work environment has a positive effect of 0.419 ( $p < 0.001$ ) with a contribution of 16.6% ( $\Delta R^2 = 0.166$ ).
3. Discipline variables and work environment have an influence on the performance of employees of the Public Works, Housing and Energy Department of Mineral Resources. Discipline and work environment simultaneously had a positive massing effect of 0.233 ( $p < 0.05$ ) and 0.389 ( $p < 0.001$ ) respectively with a contribution of 14% ( $\Delta R^2 = 0.140$ ).
4. The agency should socialize employee regulations while imposing sanctions for those who violate and enforce these regulations firmly so that employee discipline increases. The agency should organize recreational events or training for employees to strengthen relationships between employees and leaders so as to increase cohesiveness and cooperation so that the working atmosphere becomes more comfortable, conducive, and employee performance increases.

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