

Employee Productivity Model at Mineral, Coal and Geothermal Resources Center

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Abstract. This study intends to determine the influence of Organizational Culture and Work Environment on Work Productivity, either partially or simultaneously, this research was carried out at the Center for Mineral, Coal and Geothermal Resources. The population in this study amounted to 161 employees at the Center for Mineral, Coal and Geothermal Resources. Sampling was used in taking samples in this study using a census with a total sample of 62 respondents. Based on the variables studied, the types of research used are descriptive and verification. The analytical method used in this research is multiple linear regression, correlation coefficient, determination analysis coefficient, partial and simultaneous hypothesis testing. This study obtained the results that organizational culture has a significant influence on work productivity, and the work environment does not have a significant effect on work productivity. The results of the research show that both orientations can be applied simultaneously in determining work productivity in the Center for Mineral, Coal and Geothermal Resources. The results of this study are expected to help managers in the company to increase the work productivity of their employees by paying attention to Organizational Culture and Work Environment on Work Productivity.

1. Introduction

The internal environment becomes an important part of organizational culture. Culture can be regarded as the magnitude of weaknesses and strengths of an organization. Some organizations can achieve success in realizing a culture that is fully by the needs of the organization [1]. The importance of environmental quality in the workplace can be a determinant of the level motivation, performance and productivity of employees in later time [2]. Usually the majority of empirical research on the work environment focuses on indicators of the physical environment and pays less attention to nonphysical environments that actually have an equally important role in work productivity [3]. Work Productivity is one of the important parts that need to be considered by the company to improve the work of each employee. What needs to be considered is the comfort of the work environment [4]. In the literature, different effects on Work Productivity are present in some ideas that suggest that job incompatibility should be studied separately as a mismatch of the skills they possess [5].

Based on research that has been done by several researchers before, broadly explaining if the organizational culture and work environment seem to have power. Similarly, many employees argue

that organizational culture and work environment to work productivity are spelled out in general not fixated on any of the references. Thus, we as researchers are interested in seeing the extent of the company's development by looking at the application of organizational culture and work environment that impacts the results of employee work productivity.

For this reason, the purpose of this study is to provide an overview of organizational culture and the work environment implemented on the work productivity of today's employees. This is done to prepare employees in the face of the situation that will occur at the Center for Mineral, Coal and Geothermal Resources.

Organizational Culture

Organizational culture is a combination of all assumptions, criteria, behaviors, and various ideas that become one to know the meaning of being a member of an organization Robbins in Saptyaningsih, (2021).

In addition, he stated that there are 10 indicators for organizational culture, namely as follows:

- A member's identity states that each individual is part of a company not just part of the job.
- The emphasis of group work activities in organizations is done together instead of individuals.
- The integration of units within an organization is supported to coordinate and complement each other.
- The focus on human decision-making is carried out by the management who determines the impact of the outcome.
- Supervision of existing regulations in an organization is applied to supervise and control employee behavior.
- Employee risk tolerance is required to be innovative, aggressive, and dare to take risks in a company.
- The award criteria are the giving of the company to employees in the form of salary increases or promotions, by the achievements or performance that have been achieved by employees.
- Tolerance for employee conflict is directed to being able to accept criticism and comments from other employees.
- Orientation on the final results of the management focuses more on the final result than on the techniques and processes to achieve the final result.
- Prioritizing the company's open system prioritizes changes that occur around and outside the organizational environment.

Work Environment

The Work Environment is something that supports employees in completing their work Suwardi & Daryanto, (2018). According to Sedarmayanti, (2017) the work environment is something physical and non-physical around employees that can affect employees in carrying out their work. Sunyoto in Panjaitan, (2018) stated that the indicators of the work environment are divided into 2, including the following:

1. Physical Work Environment

- Noise level an unsettled work environment can affect employees in completing their work, which causes discomfort.
- Lighting is not only around the lights provided in the workroom but also includes natural lighting derived from sunlight.
- Air circulation sufficient air exchange so that employees do not feel stuffy then there needs to be ventilation procurement
- Security a working environment with good security can cause calm and comfort where this can make employees not feel anxious about the occurrence of something unwanted.

2. Non-Physical Work Environment

- Relationships between employees it is important to improve employee performance and improve feelings, thoughts, communication between other employees and can work together.

- Work rules Good work regulations also clearly have a good influence on employee satisfaction and career development

Work Productivity

Sedarmayanti, (2017) stated that work productivity is the level of measurement of the ability of each employee member in his participation to produce goods and services. Sutrisno in Panjaitan, (2018). Stating the indicator of work productivity there are 6, namely as follows:

- Ability an employee can carry out tasks depending largely on the skills they have and their professionalism at work.
- Improve the results achieved the result can be felt by those who do well who enjoy the results.
- Spirit of work it's an effort to be better than yesterday.
- Self-development it can be done by looking at the expectations and challenges that are being faced.
- Quality it is the result of work that can show the quality of an employee.
- Efficiency comparison of the results achieved with the resources used.

2. Method

The method used in this study is a descriptive method by describing the purpose of the research, namely how Organizational Culture, Work Environment, and Employee Work Productivity are carried out, as well as verification methods by proving the truth of the relationship between organizational culture variables, work environment, and employee work productivity through quantitative approaches. Due to the minimal time with the existing management in the company, the dissemination of questionnaires was carried out for more effective data retrieval.

3. Results and Discussion

The following is data that has been processed by researchers from the results of the dissemination of questionnaires that have been related to Organizational Culture, Work Environment, and Work Productivity.

Table 1. Multiple Linear Regression Equations

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	11,678	4,152		2,812	,007
Organizational Culture	,312	,049	,624	6,308	,000
Work Environment	,130	,092	,139	1,406	,165

$$Y = 11,678 + 0,312X_1 + 0,130X_2$$

- 11,678 indicates a constant value which means the interpretation of the overall independent variable according to the Likert scale measurement from 1 to 5.
- 0.312 is the value of organizational culture which means positive or any improvement that occurs in an organizational culture based on units will increase work productivity.
- 0.130 is the value of the work environment which means positive or any improvement that occurs in the work environment based on units will increase work productivity.

Table 2. Multiple Linear Regression Equations

		Unstandardized
		Residual
N		62
Normal Parameters ^{a,b}	Mean	,0000000
	Std. Deviation	3,86163147
Most Extreme Differences	Absolute	,083
	Positive	,083
	Negative	-,077
Test Statistic		,083
Asymp. Sig. (2-tailed)		,200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Based on table 2 above shows explains that the sig value of 0.200 means more than 0.05, so the results prove that the data obtained is the normal distribution.

Normal P-P Plot of Regression Standardized Residual

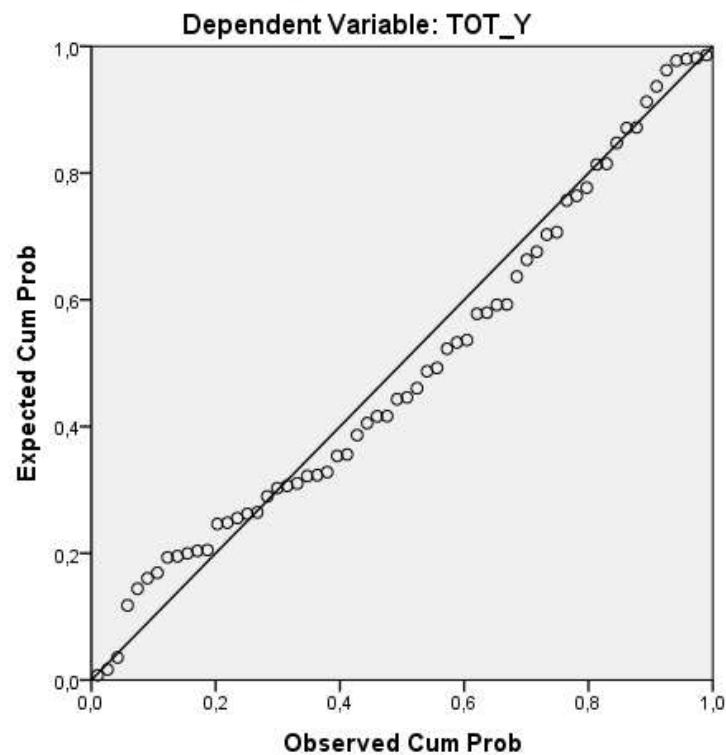


Figure 1. Normal Probability Plot Graph

Figure 1 shows about available graph images prove that the distribution of data is normal due to the spread of points that follow the path and are not far from the diagonal line. Therefore, the assumption of normality in this study can be met.

Table 3. Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Organizational Culture	,977	1,023
	Work Environment	,977	1,023

a. Dependent Variable: Work Productivity

Table 3 shows that tolerance value of 0.977 and a VIF value of 1.023 indicates that correlations between variables are not found and are strong so that the data qualifies for multicollinearity tests.

Table 4. Heteroskedasticity Test

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	1,876	2,578			,728	,470
	Organizational Culture	,021	,031	,088		,672	,504
	Work Environment	-,003	,057	-,008		-,059	,953

a. Dependent Variable: ABS_RES

Table 4 shows the significant value shown in the table yields a result of more than 0.05, which means the residual variance in the data is homogeneous and qualifies the heteroskedasticity test assumption.

Table 5. Correlation and Determination Coefficient Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,660 ^a	,435	,416	3,92654

a. Predictors: (Constant), Market Orientation, Entrepreneurship Orientation

b. Dependent Variable: Business Performance

Based on table 5 shows the correlation value of organizational culture and work environment with work productivity 0.660. These results fall into a strong level at interval classes between 0.60 - 0.799.

R Square gained 43.50% which explains the large contribution of organizational culture and the work environment to work productivity. The rest of R Square's results are contributions to other variables that are not found in the study, such as job satisfaction, employee loyalty, and so on.

Table 6. Partial Hypothesis Testing

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11,678	4,152		2,812	,007
	Organizational Culture	,312	,049	,624	6,308	,000
	Work Environment	,130	,092	,139	1,406	,165

a. Dependent Variable: Business Performance

Table 6 shows obtained values $t\text{-calculated} > t\text{-table}$ ($6,308 > 2,000$) and sig ($0,000 < 0,05$) so that influence is obtained between organizational culture and work productivity at the Mineral Resources Center, Coal, and Geothermal.

Obtained values $t\text{-calculated} > t\text{-table}$ ($1,406 < 2,000$) and sig ($0,165 > 0,05$) so that no influence is obtained between the work environment and work productivity at the Center for Mineral Resources, Coal, and Geothermal.

Table 7. Simultaneous Hypothesis Testing

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	701,236	2	350,618	22,741	,000 ^b
	Residual	909,644	59	15,418		
	Total	1610,880	61			

a. Dependent Variable: Work Productivity

b. Predictors: (Constant), Work Environment, Organizational Culture

Table 7 shows the acquisition $F\text{-calculate} > f\text{-table}$ ($22,741 > 3,153$) and sig ($0,000 < 0,05$) mean there is significance between the organization and the work environment to work productivity at the Center for Mineral, Coal and Geothermal Resources.

4. Conclusion

From the results of research and explanations accompanied by previous theories and concepts, the conclusions that can be put forward by researchers as a whole both organizational culture and work environment on work productivity at the Center for Mineral Resources, Coal, and Geothermal have shown good results. But there are still some indicators that are the material for the company's evaluation to continue to improve work. The hypothesis shows the results of a simultaneous positive relationship between Organizational Culture and the Work Environment to Work Productivity at the Center for Mineral, Coal and Geothermal Resources.

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