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(RESEARCH ARTICLE)



The influence of job characteristics and team work on employee performance with organizational culture as an intervening variable in the water resources department of Bina Marga and Bina Construction Deli Serdang District

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Abstract

The purpose of this research was to determine the influence of job characteristics and team work on employee performance with organizational culture as an intervening variable in the Water Resources, Highways and Construction Services Department of Deli Serdang Regency. The method used in this research is a quantitative descriptive method which is carried out through data collection using questionnaires and statistical testing data analysis. The population in this study was 151 employees, with sampling using the Slovin formula to obtain a sample of 110 employees. The data analysis used was path analysis using the SPSS Statistics version 18 application. The results of the study showed that job characteristics had an influence on organizational culture at the Department of Water Resources, Highways and Construction, Deli Serdang Regency. Team work influences organizational culture at the Deli Serdang Regency Water Resources and Construction Services Department. Job characteristics influence employee performance at the Department of Water Resources, Highways and Construction, Deli Serdang Regency. Team Work influences employee performance at the Department of Water Resources, Highways and Construction, Deli Serdang Regency. Organizational culture influences employee performance at the Department of Water Resources, Highways and Construction, Deli Serdang Regency. Organizational culture is able to mediate the influence of job characteristics on employee performance at the Water Resources Department of Highways and Construction of Deli Serdang Regency. Organizational culture is able to mediate the influence of team work on employee performance at the Water Resources Department of Highways and Construction of Deli Serdang Regency.

Keywords: Job Characteristics; Team Work; Organizational Culture; Performance

1. Introduction

Organizations basically depend very much on the quality of the human resources they have. The resources owned by an organization such as capital, methods and machines cannot provide optimal results if they are not supported by human resources who perform well. Organizations need individuals who work better to achieve organizational goals. Employee performance is the most important aspect in an organization, because it is one of the determining factors in achieving the organization's vision and mission. Performance is measured by the quantity of effort produced by employees, and performance is also synonymous with achieving certain job requirements. Employee performance problems are generally found in almost all organizations, as well as in the Deli Serdang Regency Water Resources and Construction Services Department. Based on Deli Serdang Regent's Regulation Number 24 of 2022 concerning Position, Organizational Structure, Duties and Functions and Work Procedures of the Water Resources, Highways and Construction Development Department, the main task is to: Assist the Regent in carrying out government affairs in the field of public works and spatial planning in the water resources sector, the community development sector, the construction sector which is the authority of the region and assistance tasks given to the Regency.

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In carrying out these duties and obligations, the Department of Water Resources, Highways and Construction Development has the following functions: Formulating technical policies in the Field of Water Resources and Flood Management, Highways and Construction Development, Implementing policies in the Field of Water Resources and Flood Management, Highways and Construction Development, Implementation of evaluation and reporting in the Field of Water Resources and Flood Management, Highways and Construction Development, Technical development in the Field of Water Resources and Flood Management, Highways and Construction Development and Implementation of other functions assigned by the Regent related to their duties and functions

The objectives of the Department of Water Resources, Highways and Construction Development are to improve the quality of road and irrigation network services, increase the accountability of the performance of regional apparatus and improve the quality of services of regional apparatus. In carrying out its main duties and functions, the Department of Water Resources of Highways and Construction of Deli Regency Serdang has 151 civil servants.

Empirically and theoretically, various elements influence employee performance, including job characteristics (Lawder et al. 2014), and team work (Lopez et al. 2005). Basically, performance refers to the level of achievement of the tasks that make up an employee's job. Performance reflects how well employees fulfill the requirements of a job to improve their performance.

The first factor that can improve performance is job characteristics. Hackman and Oldham in von Sandya Sari Putri (2014) developed a theory of job characteristics. According to this theory, job design/position design influences motivation, performance and job satisfaction. This concept has served as a framework for management to identify how certain job characteristics influence work outcomes.

There are several main steps that can be taken in implementing the job characteristics model developed by Hackman and Oldham. This model seeks to increase employee motivation and satisfaction, therefore the first step to start implementation is to design a diagnosis of the work environment to determine whether there are problems or problems that have the potential to have a negative impact. Hackman and Oldham developed an instrument that each employee could use to create a personal summary for use by managers.

The first step to start implementation is to design a diagnosis of the work environment to determine whether there are problems or problems that have the potential to cause negative impacts. Hackman and Oldham developed an instrument that each employee can use to create a summary of their personal information for use by management. The second step is to decide to redesign jobs based on certain employee groups. Redesigning work is possible in an active environment where employees have the necessary knowledge and skills. The third step is the manager's role to consider what methods will be used to redesign the job. The focus of these activities is to improve core job characteristics.

The next factor that is the focus of organizational attention in efforts to improve employee performance is team work. The existence of a team in an organization is necessary because of the assumption that the performance that will be produced by the team will be greater than the performance that can be produced by each individual who makes up the team. Individual tasks in the team are tasks that each team member carries out in accordance with what is assigned to that individual in the team. Meanwhile, team tasks are tasks related to the interaction and coordination of team members in achieving common goals.

Team tasks are the surplus value of the team so that the team cannot be viewed simply as the sum of all team members. Individual task performance and team task performance in turn shape team performance. Failure to achieve team performance can be attributed to individual performance failures, for example due to one person's mistake, and can also be attributed to team task performance, for example due to failures in coordination or communication.

Based on the results of a preliminary study carried out on 30 (thirty) Civil Servant (PNS) staff, it shows that there are employee performance problems at the Water Resources, Highways and Construction Services Department of Deli Serdang Regency. The results of a preliminary study of 30 civil servant staff by their superiors are as follows:

- There are 17.6% of employees who have problems with the quality of their work, which shows that there are still many employees whose work does not produce quality results and is not oriented towards the quality of their work.
- There are 20.6% of employees who have problems with the quantity of work, which shows that there are still many employees who work without being oriented towards the amount of work that must be completed.
- There are 18.2% of employees who have problems with work efficiency, which shows that there are still many employees who work without maximizing the available facilities.

- There are 22.6% of employees who have problems with work effectiveness, where it can be seen that there are still many employees who are working who have not been able to complete their work according to plan.
- There are 32.1% of employees who have problems completing work results, where it can be seen that there are still many employees who are working who are not able to complete the work according to the specified time.

The results of the preliminary study show that there are employee performance problems, the largest percentage of problems is the time for completing work results (32.1%) and the smallest is the quality of work (17.6%). Research results from Awel Suryadi (2019) Hypothesis testing uses a partial test (t test) to test the influence of the independent variable on the dependent variable partially with a significance level criterion of 0.05. The influence of job characteristics on employee performance. The results of the second hypothesis of job characteristics produce a regression coefficient of 0.203 and a significance level of 0.013 < 0.05 so that partially (individually) there is a positive and significant influence on employee performance. Thus hypothesis (H): Job characteristics have a positive and significant effect on the performance of employees of the Semarang Maritime Science Polytechnic, is accepted. The results of this research indicate that there is a significant influence of job characteristics on employee performance.

Dini Hariani Octavia's et al, research results (2021) show that the impact of team work on employee performance is seen based on the t-statistics value of $3.549 \ge 1.96$. This explains the significant influence of the team work variable on employee performance. Meanwhile, the original sample value is 0.599 which has a positive sign, which means that if team work increases, employee performance will also increase.

This means that it is directly proportional. The results of this research show that there is a significant influence of team work on employee performance.

Alfitri Rijanto's research results (2018) show that organizational culture has a regression coefficient of 0.236, which means that for every additional number of organizational culture numbers with a positive coefficient, employee performance will increase by 0.236. So, the more the organizational culture improves, the employee performance value will increase. The results of this research indicate that there is a significant influence of organizational culture on employee performance.

Based on this description, the author is interested in researching "The Influence of Job Characteristics and Team Work on Employee Performance with Organizational Culture as an Intervening Variable in the Department of Water Resources, Highways and Construction Development, Deli Serdang Regency."

2. Material and methods

2.1. Path Analyst

To test the influence of intervening variables, the path analysis method is used. Path analysis is an extension of multiple linear regression analysis or path analysis is the use of regression analysis to estimate causal relationships between causal model variables that have been previously determined based on theory. In this research, performance is the dependent (bound) variable, job characteristics and team work are the independent variables (independent) and organizational culture as an intervening (mediation) variable. So the Path Analysis equation can be used with the following formula:

Sub Structure Equation I:

Z = a+b1X1 + b2X2

Information:

a : Constant

Z : Organizational Culture
b : Regression Coefficient
X1 : Job Characteristics
X2 : Team Work

Sub Structure II Equation:

Y = a + b1X1 + b2X2 + bZ

Information:

a: Constant

Y: Performance

Z: Organizational Culture b: Regression Coefficient

X1: Job Characteristics

X2: Team Work

3. Results

3.1. Path Analysis Results (Equation I)

Table 1 Path Analysis Results (Equation I)

Coefficients ^a							
		В	Std. Error	Beta			
1	(Constant)	-2.486	3.243	-	-0.767	0.445	
	Job Characteristics	0.736	0.160	0.367	4.586	0.000	
	Team Work	1.020	0.196	0.416	5.204	0.000	

Source: Research results processed with SPSS, 2023

Table 1 above is known in the Unstandardized Coefficients part B obtained multiple linear regression equations, namely with the following formula:

$$Z = a + b1X1 + b2X2$$

$$Z = -2.486 + 0.736 + 1.020$$

The interpretation is:

The constant (a) = -2.486 indicates that the constant value where if the variable job characteristics and team work is 0, then the organizational culture decreases by 2.486. The coefficient of job characteristics (b1) = 0.736, indicating that each addition of one unit to the job characteristics variable, the organizational culture will increase by 0.736.

The team work coefficient (b2) = 1.020, indicating that each addition of one unit to the team work variable, the organizational culture will increase by 1.020.

3.2. Path Analysis Results (Equation II)

Table 2 Path Analysis Results (Equation II)

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.		
		В	Std. Error	Beta				
1	(Constant)	5.027	1.667	-	3.015	0.003		
	Job Characteristics	0.242	0.090	0.179	2.685	0.008		
	Team Work	0.591	0.112	0.359	5.252	0.000		
	Organizational Culture	0.295	0.050	0.440	5.955	0.000		

Table 2 above is known in the Unstandardized Coefficients part B obtained multiple linear regression equations, namely with the following formula:

$$Y = a + b1X1 + b2X2 + b3Z$$

$$Y = 5.027 + 0.242 + 0.591 + 0.295$$

The interpretation is:

The constant (a) = 5.027 indicates that the constant value where if the variable job characteristics, team work and organizational culture is equal to 0, then the performance is worth 5.027.

The coefficient of job characteristics (b1) = 0.242, indicates that each addition of one unit to the job characteristics variable, performance will increase by 0.242.

The team work coefficient (b2) = 0.591, indicates that each addition of one unit to the team work variable, performance will increase by 0.591.

Organizational Culture Coefficient (b3) = 0.295, indicating that each addition of one unit to the organizational culture variable, performance will increase by 0.295.

For the value of e1, the formula e1 = (1-0.423) = 0.759 and for the value of e2, the formula e2 = (1-0.663) = 0.580. For the value of P1, P2, P3 seen from Standardized Coefficients Beta.

3.3. Results of t test (Equation I)

Table 3 Results of t test (Equation I)

(Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.			
		В	Std. Error	Beta					
1	(Constant)	-2.486	3.243	-	-0.767	0.445			
	Job Characteristics	0.736	0.160	0.367	4.586	0.000			
	Team Work	1.020	0.196	0.416	5.204	0.000			
a.]	a. Dependent Variable: Organizational Culture								

Source: Research results processed with SPSS, 2023

Based on the partial t test of Equation I above, it can be seen that:

The t value of the job characteristics variable is 4.586> from the t table 1.98260 with a significant 0.000 < 0.05, so job characteristics affect organizational culture.

The t value of the team work variable is 5.204> from t table 1.98260 with a significant 0.000 < 0.05, then team work has an effect on organizational culture.

3.4. Results of t test (Equation II)

Table 4 Results of t test (Equation II)

Coefficients ^a							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
		В	Std. Error	Beta			
1	(Constant)	5.027	1.667	-	3.015	0.003	
	Job Characteristics	0.242	0.090	0.179	2.685	0.008	
	Team Work	0.591	0.112	0.359	5.252	0.000	
	Organizational Culture	0.295	0.050	0.440	5.955	0.000	
a. Dependent Variable: Performance							

Source: Research results processed with SPSS, 2023

Based on the partial t test of Equation II above, it can be seen that:

The t value of the job characteristics variable is 2.685 from t table 1.98260 with a significant 0.008 < 0.05, so job characteristics affect performance.

The t value of the team work variable is 5.252> from t table 1.98260 with a significant 0.000 < from 0.05, then team work affects performance. The t value of the organizational culture variable is 5.955> from t table 1.98260 with a significant 0.000 < 0.05, then organizational culture affects performance.

3.5. Results of the Coefficient of Determination (Equation I)

Table 5 Results of the Coefficient of Determination (Equation I)

Model Summary ^b								
Model R		R Square	Adjusted R Square	Std. Error of the Estimate				
	1	0.658a	0.433	0.423	3.76225			
a. P	a. Predictors: (Constant), Team Work, Job Characteristics							
b. I	b. Dependent Variable: Organizational Culture							

Source: Research results processed with SPSS, 2023

So in this study, the coefficient of determination of equation I uses the Adjusted R Square value, because the independent variable used is more than one. Based on table 4.19, it can be seen that the Adjusted R Square value = 0.423. Thus the magnitude of the influence of job characteristics and team work on organizational culture is 42.3%. while the remaining 57.7% is influenced by other factors not examined in the study such as leadership, work discipline and others.

3.6. Results of the Coefficient of Determination (Equation II)

Table 6 Results of the Coefficient of Determination (Equation II)

Model Summary ^b								
Model R		R	R Square	Adjusted R Square	Std. Error of the Estimate			
decond	1	0.820a	0.672	0.663	1.92898			
a. Predictors: (Constant), Organizational Culture, Job Characteristics, Team Work								
b. I	b. Dependent Variable: Kinerja							

Source: Research results processed with SPSS, 2023

So in this study, the coefficient of determination of equation II uses the Adjusted R Square value, because the independent variable used is more than one. Based on table 4.20, it can be seen that the Adjusted R Square value = 0.663. Thus the magnitude of the influence of job characteristics, team work and organizational culture on performance is 66.3%. while the remaining 33.7% is influenced by other factors not examined in research leadership, work discipline and others.

4. Discussion

4.1. Job Characteristics Affect Organizational Culture

The t value of the job characteristics variable count is 4.586> from t table 1.98260 with a significant 0.000 <0.05, so job characteristics have an effect on organizational culture. Research conducted by Mulia, Marbawi and Bibi (2019) with the title Effect of Individual Characteristics and Job Characteristics on Job Satisfaction with Organizational Culture as an Intervening Variable at PT Perta Arun Gas. Based on statistical test analysis whether individual characteristics and job characteristics and organizational culture affect the job satisfaction of PT. Perta Arun Gas Lhokseumawe City. Job characteristics have an effect on organizational culture. The results of the influence of organizational culture variables are fully mediated by individual characteristics and job characteristics on job satisfaction of PT. Perta Arun Gas Lhokseumawe City.

4.2. Team Work Affects Organizational Culture

The t value of the team work variable is 5.204> from t table 1.98260 with a significant 0.000 <0.05, so team work has an effect on organizational culture. Research conducted by Aini, Jutomo, D Purwoatmodjo (2021) with the title Implementation of Total Quality Management and Teamwork Through Organizational Culture in Improving Managerial Performance within Rsud Sunan Kalijaga Demak Regency. The results of the study concluded that Total Quality Management, Team Work have a direct positive and significant effect on organizational culture and managerial performance. Indirectly, organizational culture variables are able to provide added value or become mediating variables between Total Quality Management, Team Work on Managerial Performance.

4.3. Job Characteristics Affect Performance

The t value of the job characteristics variable count is 2.685> from t table 1.98260 with a significant 0.008 <0.05, so job characteristics affect performance. Research conducted by Fatmah (2017) with the title Effect of Job Characteristics and Employee Competence on Employee Performance at CV. Fajar Mojokerto Printing. Based on the results of regression analysis, it was found that: First, there is a positive influence between job characteristics on employee performance. Second, there is a positive influence between employee competence on employee performance. Third, there is a positive influence between job characteristics and employee competence on employee performance.

4.4. Team Work Affects Performance

The t value of the team work variable count is 5.252> from t table 1.98260 with a significant 0.000 <0.05, then team work has an effect on performance. Research conducted by Purnawan, Cahyono, Herlambang (2017) with the title Analysis of Job Characteristics on Performance with Organizational Culture as an Intervening Variable. that job characteristics have a significant effect on the results showed that job characteristics have a significant effect on organizational culture, job characteristics have a significant effect on employee performance, organizational culture has a significant effect on employee performance and job characteristics have a significant effect on employee performance through organizational culture. While the magnitude of the influence of the independent variable on the dependent variable in this study is 77.7%.

4.5. Organizational Culture Affects Performance

The calculated t value of the organizational culture variable is 5.955> from t table 1.98260 with a significant 0.000 < 0.05, so organizational culture affects performance. Research conducted by Pandelaki (2018) with the title The Effect of Teamwork and Work Culture on Employee Performance of the Titian Budi Luhur Foundation in Parigi Moutong Regency. The results of the study found that teamwork and work culture simultaneously and partially influenced employee performance at PT. BPR Binartha Luhur and Budi Luhur Cooperative Savings and Loan significantly with an R2 value of 0.583 or 58.3%. This shows that the independent variables of teamwork and work culture affect employee performance by 58.3% while 41.7% is influenced by other variables not examined.

4.6. Organizational Culture is Able to Mediate the Effect of Job Characteristics on Performance

The test statistic value of the effect of job characteristics on performance through organizational culture as an intervening variable has a test statistic value of 3.62770689> 1.96 with a significance of 0.00028595> 0.05 which means Hypothesis 6 is accepted where organizational culture is able to mediate the effect of job characteristics on performance. Research conducted by Purnawan, Cahyono, Herlambang (2017) with the title Analysis of Job Characteristics on Performance with Organizational Culture as an Intervening Variable. that job characteristics have a significant effect on the results showed that job characteristics have a significant effect on organizational culture, job characteristics have a significant effect on employee performance and job characteristics have a significant effect on employee performance through organizational culture. While the magnitude of the influence of the independent variable on the dependent variable in this study is 77.7%.

4.7. Organizational Culture is Able to Mediate Team Work on Performance

The test statistic value of the effect of team work on performance through organizational culture as an intervening variable has a test statistic value of 3.9028083> 1.96 with a significance of 0.00009508 <0.05, which means Hypothesis 7 is accepted where organizational culture is able to mediate the effect of team work on performance. Research conducted by Aini, Jutomo, D Purwoatmodjo (2021) with the title Implementation of Total Quality Management and Teamwork Through Organizational Culture in Improving Managerial Performance within Rsud Sunan Kalijaga Demak Regency. The results of the study concluded that Total Quality Management, Team Work have a direct positive and significant effect on organizational culture and managerial performance. Indirectly, organizational culture variables are able to provide added value or become mediating variables between Total Quality Management, Team Work on Managerial Performance.

5. Conclusion

Job characteristics affect organizational culture at the Deli Serdang Regency Bina Marga and Bina Kontrusksi Water Resources Office. Team work affects organizational culture at the Department of Water Resources and Highways of Deli Serdang Regency. Job characteristics affect employee performance at the Dinas Daya Air Bina Marga dan Bina Kontrusksi Deli Serdang Regency. Team Work affects employee performance at the Department of Water Resources and Highways of Deli Serdang Regency. Organizational culture affects employee performance at the Department of Water Resources and Highways of Deli Serdang Regency. Organizational culture is able to mediate the effect of job characteristics on employee performance at the Deli Serdang Regency Bina Marga and Bina Kontrusksi Water Resources Office. Organizational culture is able to mediate the effect of team work on employee performance at the Dinas Daya Air Bina Marga dan Bina Kontrusksi Deli Serdang Regency.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that they have no conflicts of interest.

Statement of informed consent

This research work involves individual information and interview survey results and has been approved by the relevant parties.

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