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The Effect of Motivation and Work Environment on The Performance of Tirtanadi PDAM Head Office Employees North Sumatra Province

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Abstract. The purpose of this study was to determine and analyze the effect of motivation on employee performance, The effect work environment on employee performance, and the effect of motivation and work environment on employee performance at the head office of PDAM Tirtanadi, North Sumatra Province. This study uses the HRM theory related to motivation, work environment and employee performance. The approach used in this research is an associative approach. The population in this study were employees of PDAM Tirtanadi, amounting to 253 people, while the sample that met the criteria was 155 people using the slovin formula. The data collection used a questionnaire technique. The data analysis technique in this study uses the Classical Assumption Test, Multiple Regression, Hypothesis Testing (t Test and F Test), and Coefficient of Determination. Partially it is known that motivation has a positive and significant influence on the performance of the employees of the PDAM Tirtanadi head office, North Sumatra Province. Partially it is known that the work environment has a positive and significant influence on the performance of the employees of the PDAM Tirtanadi head office, North Sumatra Province. Simultaneously, it is known that motivation and work environment have a significant positive effect on the performance of PDAM Tirtanadi head office employees, North Sumatra Province.

Keywords: Motivation, Work Environment and Employee Performance

1 PRELIMINARY

Achieving the goals of as system managers, human resources are necessary for an organization. Naturally, for this system to function well, management must focus on a number of critical factors, including leadership, motivation, the working environment, performance, and other factors. As a result, effective and efficient human resource management will be a key indication of reaching corporate goals.

According to [37] employee output is the outcome of their efforts in completing their given job.. Optimal performance will be realized if you can choose employees who have strong motivation. Improving employee performance in the organization is needed so that the goals desired by the company can be realized properly. The performance of an organization will increase if there is motivation and a good work environment from the organization itself. By paying attention to all the needs of human resources to support their work, employee performance improvement is anticipated.

According to [28] the organization's performance determines whether the established organizational goals will be met or not. Each employee has a variable amount of ability to accomplish their job, hence each employee's performance is unique.

According to [41] employee performance is the success attained when performing duties. The effectiveness of the actors within the organization in question determines the organization's success.

Good employee performance is a key factor in the organization attaining its objectives. The corporation will struggle to meet its objectives if employee performance slips. Therefore, in order to reach the highest level of goals, employee performance must be taken into account. Motivating employees and creating a positive workplace culture are also necessary for their performance to reach their full potential.

Meanwhile, according to [43] The process of encouraging, directing, and maintaining people's efforts toward the accomplishment of goals is called motivation.

According to [28] motivation is the most decisive factor for an employee at work. Motivation is an employee's response to a number of statements regarding the overall effort that arises from within the employee in order to grow the drive to work and the desired goals can be achieved.

According to [28] the term "work environment" refers to everything that is present around employees when they are at work, whether directly or indirectly affecting them and their work. Both physical and non-physical components are included in this. While an unsuitable workplace will have a negative impact on performance and ultimately employee motivation, a satisfactory workplace can increase performance.

The North Sumatra Province Government owns the drinking water and wastewater treatment enterprise PDAM Tirtanadi as a source of regional original revenue. It has been prepared and planned to construct a clean water facility with a capacity of 3000 liters/second in order to anticipate the need for clean water by the community in the next 10 years. In order to encourage community improvement in economic development, efforts are made to continually endeavor to meet the community's demand for clean water.

According to the author's initial study, there were a number of issues at the PDAM Tirtanadi, North Sumatra Province, including poor employee performance, which was demonstrated by the availability of numerous open tasks that could not be finished by the scheduled time, resulting in delays in providing the results of the work report to the leadership. In addition there are some employees in carrying out their work still always make mistakes that cause the employee to be less thorough, there is still a lack of motivation from the corporation toward employees, as evidenced by the absence of encouragement in employees, which means that the task must be repeated numerous times. This will have an effect on employee performance, which is declining every day.

A noisy work environment that interferes with employee work activities will have an impact on decreasing employee performance due to lack of focus on their work, the impact of which is that the work of employees is not in accordance with the wishes of the company and the institution.

Various problems in the PDAM Tirtanadi Company became the basis of research to analyze the factors that emerged. This can be used as an improvement to increase good work motivation, there are several problems that occur in the object of research, but the authors limit research problems regarding motivation, work environment and employee performance.

LITERATURE REVIEW

Employee performance

According to [17] performance is a sign of success or failure of a person or group in carrying out real work that has been set by an organization. Performance in its function does not stand alone but is related to individual, organizational and external environmental factors.

According to [40] employee performance refers to their capacity to carry out a specific task. Employee performance is crucial since it will reveal how well he or she is able to do the responsibilities that have been given to them.

Meanwhile, according to [23] employee performance is determined by the caliber and volume of work that they create while carrying out their responsibilities in accordance with the tasks allocated to them.

According to [18] everyone exhibits performance as genuine conduct at work, which the employees generate in accordance with their tasks within the company.

According to [33] Employee performance refers to an activity or work procedure that gauges a worker's capacity to deliver the intended outcomes. Performance is a reflection of a person's or an employee's actions and intended effectiveness in achieving organizational goals.

Meanwhile, according to Employee performance is stating that employees are the main eligibility of a company, because without their participation, company activities will not occur.

From the aforementioned experts' perspectives, it can be inferred that employee performance is the outcome of work in terms of quality and quantity that can be accomplished by an employee who works for a company or government agency within a specific time frame or while he is employed by the company.

Employee Performance Goals and Benefits

According to [23] states that the objectives of employee performance evaluation are:

1. Improve communication among staff members about expectations for performance.
2. Recording and praising an employee's performance to inspire them to perform better or at least equal earlier accomplishments.
3. Provide opportunities for employees to discuss their desires and aspirations and increase concern for their careers or the work they currently hold
4. Define or rephrase future objectives to inspire people to perform to the best of their abilities.
5. Examine the implementation and development plan in light of the training requirements, particularly the education and training plan, and if no changes are required, approve the plan.

According to [2] the benefits of employee performance appraisal are in addition to being useful for the company as a benchmark for making decisions and evaluating the results of work that have been completed by employees, it is also useful for employees because employees who have less performance will receive attention or training so that their performance can improve in the next period

According to [26] the benefits of evaluating employee performance in an organization are as follows:

1. Compensation Adjustments
2. Performance Improvement
3. Training and development needs
4. Making decisions in the placement of promotions, transfers, dismissals, dismissals and workforce planning
5. For employee research purposes
6. Assist in the diagnosis of employee design

Factors Affecting Employee Performance

According to [23] the factors that affect employee performance are:

1. Ability Factor (Ability)
The ability in question derives from the actual ability (knowledge + skill) and the potential ability (IQ). Employees or leaders that match the aforementioned requirements will therefore have a high potential for achieving maximum performance.
2. Motivation Factor (motivation)
Motivation is defined as the way that management and staff members view the workplace and its surroundings. In contrast, if an employee has a negative attitude, it will reflect a lack of motivation for their employment circumstances. Those that have a positive attitude about their work situation will demonstrate high work drive.

According to employee performance factors are grouped into four factors, namely:

1. Ability and expertise
2. Knowledge
3. work plan
4. Personality
5. Work motivation
6. Leadership
7. Leadership style
8. Organizational culture
9. Job satisfaction
10. Work environment
11. Loyalty
12. Commitment
13. Work discipline

According to [23] said that the factors that affect employee performance are:

1. Individual Factor
What is meant by individual factors as quoted above are individuals who have high integrity between their psychic (spiritual) and physical (physical) functions.
2. Organizational Environmental Factors
Clear job descriptions, sufficient authority, demanding work goals, efficient communication patterns, harmonious working environments, a respected and dynamic work environment, career prospects, and reasonably enough work facilities are examples of organizational environmental variables..

Employee Performance Indicator

According to [3] employee performance indicators are quantitative and qualitative measures to be able to describe the level of achievement of organizational goals and objectives, both at the planning stage, implementation stage and after the activity is completed.

The employee performance indicators according to [3] are as follows:

1. Performance *Input* t (input)
Performance input (input) is an indicator of everything needed so that the implementation of activities can produce the specified output; for example Funds, HR and others.
2. *Output* Performance (output)
Is something that is expected to be directly achieved from an activity that can be either physical or non-physical.
3. *Outcome* Performance (results)
Is everything that reflects the functioning of the output of activities in the medium term.
4. Performance *Benefits* (benefits)
Is something related to the ultimate goal of carrying out activities.
5. Performance *Impact* t (impact)
It is the influence caused by both positive and negative at each level of the indicator based on the assumptions that have been set.

Meanwhile, according to states that employee performance indicators are:

1. Quality (quality)
Examining the caliber of the output from a particular process can be used to measure performance.
2. Quantity
Examining a person's output in terms of quantity (amount) is another way to gauge performance.
3. Time (Timeframe)
For certain types of work, there is a time limit for completing their duties or work. This means that there is a minimum or maximum time limit that must be met.
4. Cost Emphasis

The costs incurred for each company activity have been budgeted before the activity is carried out. The performance indicators according to Janseen in [31] are as follows:

1. Working quantity
The quantity of work is the amount of work done in a specified period.
2. Work quality
Quality of work is the quality of work achieved based on the terms of suitability and readiness.
3. Work knowledge
Work knowledge is the breadth of knowledge about the job and its skills.
4. Cooperation
Cooperation is the willingness to cooperate with other people or fellow members of the organization.
5. Reliable
Awareness to be trusted in attendance and completion of work.

Motivation

According to [43] motivation is the process by which people's efforts are encouraged, directed, and continued towards certain achievements.

According to [24] states that the notion of motivation is as follows:

Motivation is people who can achieve results through other people. That other person was his own subordinate. In this regard, it is an obligation for the leader, so that his subordinates get achievements. The performance of subordinates is mainly caused by two things, namely: the ability of the employee and the qualifications he has, such as education, experience and personal characteristics. While the driving factor is influenced by something inside and outside of him.

According to [23] employees who are instructed or motivated to attain the objectives of the corporate structure are said to be motivated. Employees are more motivated to work hard and accomplish their best work when they have a favorable mental attitude toward their workplace.

Meanwhile, according to [4] Motivation is a force that influences whether or not someone takes action. It mostly comes from within and without, and it can be directed in either a positive or negative way, depending on how tough the management is.

According to [10] motivation is a reason or encouragement for someone to act. People who don't want to act are often called unmotivated.

According to [30] motivation is a psychological trait that stimulates a person's desire to engage in specific activities in order to accomplish goals..

According to [25] motivation is the desire, desire, hope, goal, goal, need, drive, motivation and incentive that exists within a person to achieve a company goal.

According to [22] Motivation is a state that affects causing, controlling, and sustaining behavior in the workplace.

From some of the aforementioned experts' perspectives, it can be inferred that motivation is an urge that a person or employee has that will increase his or her enthusiasm for reaching a company goal.

The Purpose and Benefits of Giving Motivation

According to states that the purpose of providing motivation is:

1. Encouraging employee passion and enthusiasm
2. Improve employee morale and job satisfaction
3. Increase employee productivity
4. Improve discipline and reduce employee absenteeism
5. Streamlining employee procurement
6. Creating a good working atmosphere and relationship
7. Increase employee creativity and participation
8. Increase the level of employee welfare
9. Enhancing employees' sense of responsibility towards their duties
10. Increase efficiency in the use of tools and raw materials.

According to [19] essentially the purpose of providing work motivation to employees is:

1. Changing employee behavior in accordance with the wishes of the company
2. Increase passion and enthusiasm for work
3. Improve work discipline
4. Improve work performance
5. Increase sense of responsibility
6. Increase productivity and efficiency
7. Growing employee loyalty to the company

As an impetus for work itself, work motivation has a direct effect on one's morale. People who are motivated to work will be more committed to work. This morale will directly improve a person's performance. The greater the performance of an employee, their productivity will increase. This certainly has a direct effect on a person's ability, especially in meeting their needs and desires. A person's motivation to work will increase if they are given the trust and opportunity to prove their abilities.

Factors Affecting Motivation

According to [19] motivation in a person will be influenced by several factors, namely;

1. Internal factors contained in an employee himself
2. External factors that come from outside the employee.

According to [4] states the factors that influence motivation, namely:

1. Individual characteristics
 - a. Interest
 - b. Attitudes towards self, work, and work situations
 - c. Individual needs
 - d. Ability or competence
 - e. Knowledge of work
 - f. Emotions, moods, feelings, beliefs and values.
2. Job factors
 - a. Work Environment Factors
 - (1) Salary and benefits received
 - (2) Accepted policies
 - (3) Supervision
 - (4) Human relationship
 - (5) Working conditions such as working hours, physical environment.
 - (6) Organizational culture
 - b. Factor in work
 - (1) Nature of work
 - (2) Task/job plan
 - (3) Recognition of achievements
 - (4) Level/amount of responsibility assigned
 - (5) There is development and progress in work.
 - (6) There is job satisfaction.

Motivation Indicator

The indicators in motivation according to Maslow's theory, the Hierarchy of Needs theory [8] are as follows:

1. Physiological needs (physiological-needs)
2. Needs Sense of security (safety-need)
3. Social Needs
4. Appreciation Needs (Esteem-need)
5. (Self-actualization need)

The explanation of the quote above is:

1. Physiological needs (physiological-needs)

The most fundamental hierarchy of human needs is called physiological needs, and it includes need for things like food, water, shelter, oxygen, sleep, and other necessities for survival.
2. Need for Safety (safety-need)

If the physiological demands are largely met, a new need, namely the need for security, emerges.
3. Social Needs

Social wants, such as the need for companionship, affiliation, and more frequent engagement with people, will surface once physiological and safety requirements have, at the very least, been met. The requirement for a small work group, competent supervision, shared recreation, and other factors in the organization will be closely associated.
4. Appreciation Needs (Esteem-need)

These requirements include the need to be respected, to be recognized for one's accomplishments, and to have one's skills and abilities acknowledged.
5. (Self-actualization need)

The highest need in Maslow's hierarchy is Self-Actualization. Self-actualization is the process of a person reaching their full potential. The urge to demonstrate one's potential, skills, and capacities. In fact, since people actualize their conduct, there is a propensity for self-actualization to require to increase. A person who is driven by the quest for self-actualization appreciates undertaking projects that stretch their skill set.

Work environment

According to [21] everything in the worker's immediate vicinity that can interfere with his capacity to execute the tasks assigned is regarded as a component of the workplace.

According to the atmosphere or surroundings of the workplace are referred to as the work environment. The working environment might include spaces, designs, infrastructure, and working relationships with other employees.

Meanwhile, according to [9] the work environment, which includes the physical environment as well as the social and virtual environments, is a tool available within the organization that may be utilized to continuously enhance both individual and business performance.

According to [35] the working environment includes everything that surrounds employees and may interfere with their ability to do duties, such as cleanliness, music, and lighting, among other things.

According to [11] the conditions that surround employees at work may have an impact on how well they do their duties, either directly or indirectly. Environment.

Meanwhile, according to [5] the environment includes the equipment and supplies used, the setting in which a person works, as well as the work practices and organizational systems used by both people and groups.

According to some of the above-mentioned expert viewpoints, the workplace environment includes all that is around employees, both physically and virtually, to facilitate the completion of their work.

Work Environment Benefits

A conducive work environment will be able to provide enormous benefits both for all employees and for the organization, because the environment is able to improve employee performance

According to [9] states that the benefits of the Work Environment are:

1. Physical and Psychological Health
2. Work comfortability
3. Peace of Work
4. Work persistence
5. Depth of work concentration
6. Job satisfaction

Factors conducive to the work environment

According to [9] the determinants of the conduciveness of the physical work environment, especially the *indoor environment*, are:

1. environmental Hygiene
2. The presence of a room temperature controller
3. Arrangement of the room
4. The presence of ornamental plants
5. The presence of wall decoration
6. Room accessories arrangement
7. Arrangement of furniture and other furniture
8. The existence of hotspots and wifi
9. The presence of air freshener
10. The presence and arrangement of lighting
11. Security system
12. Availability of fire extinguishers

According to [9] the determinants of the conduciveness of the social environment including the Virtual environment include:

1. Familiarity level
2. types of group meetings
3. Group meeting place
4. Group meeting time
5. The social kinship system that was built
6. The presence of management in creating social fabric
7. The character and personality of the majority of the members
8. The means of communication used.

Work Environment Indicator

According to [8] states that the indicators of the work environment are:

1. Lighting
2. Air temperature
3. Noise
4. Color Usage
5. Required wiggle room
6. Work Ability

7. Relations between employees

RESEARCH METHODS

In this research, the writer uses the A quantitative and associative approach. Permanent employees made up the population of this study at PDAM Tirtanadi Medan as many as 253 people. The sample size used in this study was 155 people. The technique used in this study is a *random sampling technique* using the *Slovin formula*.

The data collection technique used in this research is a questionnaire that is validated and reliable and a questionnaire (*Questioner*). While the data analysis techniques in this study used the Classical Assumption Test, Multiple Linear Regression, Hypothesis Testing (*partial t-test and simultaneous f-test*) and the Coefficient of Determination.

RESEARCH RESULT

Data analysis

1) Normality

To ascertain if the dependent and independent variables in the regression model have normal distributions or, on the other hand, do not, destination from testing data normality is used. With provision testing, if the data spreads around the diagonal line and moves in the direction of the diagonal line, the regression model will be used. fulfill the supposition of normality. Below are the results of the normality test to test the overall data of research variables with an *ordinal minimum scale* using the *Kolmogorov-Smirnov test conditions* using the SPSS program.

Table 1

Kolmogorov–Smirnov . Normality Test

One-Sample Kolmogorov-Smirnov Test

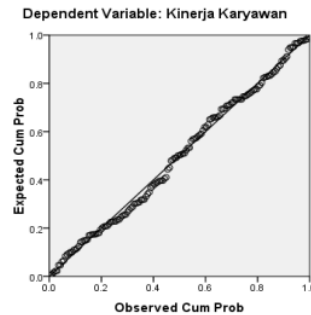
		Motivation	Work environment	Employee performance
N		155	155	155
Normal Parameters ^a	mean	37.9935	53.6387	38.2194
	Std. Deviation	5.37490	7.25767	4.24612
Most Extreme Differences	Absolute	.101	.094	.116
	Positive	.060	.060	.116
	negative	-.101	-.094	-.079
Kolmogorov-Smirnov Z		1.258	1.171	1.447
asympt. Sig. (2-tailed)		.846	.129	.303

a. Test distribution is Normal.

Source : Research Data (processed) SPSS, 2020

Based on the data from the *One-Sample Kolmogorov-Smirnov Test normality test table* above, it can be seen that based on the normality test the data obtained a probability value based on the *standardized value of 0.05* with the test results of each variable, namely motivation (X_1) = 0.846 Work Environment variable (X_2) = 0.129 and Employee Performance variable (Y) = 0.303. Thus it can be concluded that H_0 is accepted or the distribution of the Motivation variable (X_1), Work Environment (X_2) and Employee Performance (Y) is normally distributed, because the value of the variable value of the normality test result above is greater than the *standardized value of 0.05*. For more details, it can be seen in the normal *PP plot of regression standardized residual* in the image below:

Normal P-P Plot of Regression Standardized Residual



Source: Research Result Data, processed by SPSS, 2020

Figure 1 Normality Test Results

The data clearly spreads along a diagonal line, proving that the dependent and independent variables have a normal relationship or distribution or satisfy the normality assumption test, based on the information presented above.

Multicollinearity

The regression model's ability to find a strong correlation between the independent variables was tested for multicollinearity, provided that:

- If the tolerance is < 0.1 or equal to $VIF > 5$, there is a serious multicollinearity problem.
- If Tolerance > 0.1 or equal to $VIF < 5$ then there is no multicollinearity problem.

Table 2. Multicollinearity Test

Model	Correlations			Collinearity Statistics	
	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)					
Motivation	.594	.375	.320	.512	1.955
Work environment	.523	.187	.150	.512	1.955

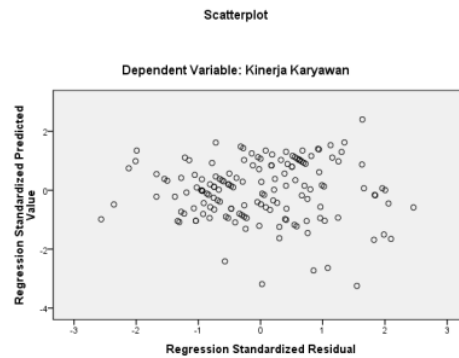
Source: Research Result Data, processed by SPSS, 2020

Based on the table above, it can be seen that the *Variance Inflation Factor* (VIF) for motivation (X1) is 1.955 and the Work environment variable (X2) is 1.955. Each independent variable has a value smaller than 10. Likewise, the *tolerance value* for the motivation variable (X1) is 0.512 and the work environment variable is 0.512. There is no evidence of multicollinearity between the independent variables, as shown by the tolerance values of each independent variable being more than 0.1 and the VIF value being less than 10, which are indicators of multicollinearity.

Heteroscedasticity Test

Heteroscedasticity test was carried out to see if there is a variance inequality from the residual of one observation to another observation in the regression model. The presence or absence of heteroscedasticity in the regression model of this study was assessed using a non-formal analytical method. Unofficial methods for determining heteroscedasticity include the graph method and the scatterplot method. The following forms the analysis's foundation:

- Heteroscedasticity has happened if there is a specific pattern, such as the dots forming a regular pattern.
- There is no heteroscedasticity if there is no distinct pattern and the points are distributed randomly.



Source: Research Result Data, processed by SPSS, 2020

Figure 2 Heteroscedasticity Test

The distribution of the residuals is erratic and does not follow a pattern, as can be observed from the shape of the image above. The dispersed points or plots demonstrate this. It is possible to conclude that there is not heteroscedasticity.

Multiple Linear Regression

Regression analysis is designed to examine the relationship that develops between the research variables and determine if that relationship is positive or negative.

Table 3. Multiple Linear Regression Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1.(Constant)	18.198	2,155		8,445	.000
Motivation	.353	.071	.447	4,990	.000
Work environment	.123	.052	.210	2,347	.020

a. Dependent Variable: Employee Performance

Source: Research Result Data, processed by SPSS, 2020

From table IV.10 above, the following values are known:

- 1) Constant = 18.198
- 2) Motivation = 0.353
- 3) Work Environment = 0.123

These findings are included into the multiple linear regression formula to determine the following equation :

$$Y = 18.198 + 0.353 X_1 + 0.123 X_2$$

Information :

- 1) The constant of 18,198 indicates that if the value of the independent variable is considered constant, the performance of employees at the PDAM Tirtanadi Head Office, North Sumatra Province will increase.
- 2) X_1 of 0.353 with a positive relationship direction indicates that if motivation increases it will be followed by an increase in employee performance of 0.353 with the assumption that other independent variables are held constant.
- 3) X_2 of 0.123 with a positive relationship direction indicates that if the work environment increases it will be followed by an increase in employee performance of 0.123 with the assumption that other independent variables are held constant.

Hypothesis test

T test (Partial Test)

Test hypothesis on test statistics t test on basic aim for show how much far level connection and influence one variable free individually in _ explain variable bound in study this. Test hypothesis the with help *The Statistical For Social Sciences* (SPSS) program can seen on table following below _ this:

Table 4. Hypothesis Test (t test)

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	18.198	2,155		8,445	.000
Motivation	.353	.071	.447	4,990	.000
Work environment	.123	.052	.210	2,347	.020

a. Dependent Variable: Employee Performance

Source: Research Result Data, processed by SPSS, 2020

The results of statistical tests in the table above can be explained as follows:

The Effect of Motivation (X1) on Employee Performance (Y)

Based on table IV. 11 above, it is obtained that the t count for the motivation variable is 4.990 for an error of 5% for the 2-party test and $dk = n - 2$ ($155 - 2 = 153$), the t table is 1.976. If $t_{count} > t_{table}$ then there is a significant effect between X1 and Y, and vice versa if $t_{count} < t_{table}$ then there is no significant effect between X1 and Y, in this case $t_{count} = 4.990 > t_{table} = 1.976$. This indicates that at the PDAM Tirtanadi, North Sumatra Province, headquarters, there is a relationship between organizational leadership and worker performance.

Furthermore, it is also seen that the probability value of t, namely sig is 0.000, while the significant level previously set is 0.05, then the value of sig is $0.000 < 0.05$, so that H_0 is rejected. The performance of the PDAM Tirtanadi, North Sumatra Province, head office is therefore significantly influenced by motivation.

Effect of Work Environment (X2) on Employee Performance (Y)

Based on table IV.11 above, the t_{count} for the discipline variable is 2.347 for a 5% error in the 2-party test and $dk = n - 2$ ($155 - 2 = 153$), the t table is 1.976. If $t_{count} > t_{table}$ then there is a significant effect between X2 and Y, and vice versa if $t_{count} < t_{table}$ then there is no significant effect between X2 and Y, in this case $t_{count} = 2,247 > t_{table} = 1,976$. As a result, discipline and the output of PDAM Tirtanadi, North Sumatra Province, head office personnel are related.

Furthermore, it is also seen that the probability value of t, namely sig is 0.020, while the significant level previously set is 0.05, then the value of sig is $0.020 < 0.05$, so that H_0 is rejected, the performance of PDAM head office personnel is significantly influenced by their workplace, according to this. Province of North Sumatra, Tirtanadi.

F test (simultaneous test)

The F test, often referred to as the simultaneous significant test, is used to assess if independent variables like motivation and environment are capable of appropriately explaining the range of behavior shown by the dependent variable, employee performance. Additionally, the F test is employed to determine whether the regression coefficient for each variable is equal to zero.

Table 5. Hypothesis Test (Test f)

11

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1042,970	2	521,485	45,724	.000 ^a
Residual	1733,572	152	11.405		
Total	2776,542	154			

a. Predictors: (Constant), Work Environment, Motivation

b. Dependent Variable: Employee Performance

Source: Research Result Data, processed by SPSS, 2020

From the table above it can be seen that the value of f is 45,724 then the sig value is 0.000

- a. If $f_{\text{count}} > f_{\text{table}}$ or $-f_{\text{count}} < -f_{\text{table}}$, then H_0 is rejected because there is a significant correlation between variables X_1 and X_2 with Y .
- b. If $f_{\text{count}} \leq f_{\text{table}}$ or $-f_{\text{count}} \geq -f_{\text{table}}$, then H_0 is accepted because there is no significant correlation between variables X_1 and X_2 with Y .

The significant level used is 5%, two-party test and $dk = nk - 1$

Based on table IV.12 above, the calculated f for motivation⁸ and work environment variables is 45,724 for² a 5% error in the 2-party test and $dk = nk - 1$ ($155 - 2 - 1 = 153$), the f_{table} is 3,055. If $f_{\text{count}} > f_{\text{table}}$ then there is a significant effect between X_1 and X_2 on Y , and vice versa if $f_{\text{count}} \leq f_{\text{table}}$ then there is no significant effect between X_1 and X_2 on Y , in this case $f_{\text{count}} = 45.724 > f_{\text{table}} = 3.055$. This means that there is a positive influence between leadership and discipline on the performance of the Head Office of PDAM Tirtanadi, North Sumatra Province.

Furthermore, it is also seen that the probability value of f , namely sig is 0.000, while the significant level previously set is 0.05, then the value of sig is $0.000 < 0.05$, so that H_0 is rejected. This proves that discipline and leadership have a good, considerable impact on worker performance. Tirtanadi, North Sumatra Province is home to PDAM's main office.

Coefficient of Determination (R-Square)

By squaring the discovered coefficients, the coefficient of determination can be used to estimate the proportion of the independent and dependent variables' effect. The coefficient of determination is a number that is typically given as a percentage (%). To determine the extent to which motivation and the workplace environment can be known through a determination test in relation to employee performance.

Table 6. Coefficient of Determination

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Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.613 ^a	.376	.367	3.37714

a. Predictors: (Constant), Work Environment, Motivation

b. Dependent Variable: Employee Performance

Source: Research Result Data, processed by SPSS, 2020

4

Based on the table above, it can be seen that the R value is 0.613 or 61.3% which means that the relationship between employee performance and the independent variables, namely motivation and work environment is close. The R -Square value in this research is 0.376, which means 37.6% of the variation in employee performance is explained by the independent variables, namely motivation and work environment. While the remaining 62.4% is explained by other variables not examined in this study. The value of R -Square (R^2) or the coefficient of determination in this study is 0.367, which means 36.7% of the performance of the employees of the PDAM Tirtanadi head office, North Sumatra Province, can be explained by motivation and work environment. While 63.3% can be explained by other independent variables that are not included in this study.

DISCUSSION

The Effect of Motivation on Employee Performance

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According to the findings of the aforementioned study, there is a partially significant relationship between motivation and the performance of PDAM Tirtanadi head office employees in the province of North Sumatra. The t count is 4.990, the t table is 1.979, and the significant number is 0.000 0.05. This means that H_0 is rejected and H_a is accepted, and the relationship between the two is significant. Performance of the staff in North Sumatra Province's PDAM Tirtanadi head office. This is also supported by the opinion that employees in carrying out their duties and responsibilities accompanied by encouragement from within and outside themselves will make them happy, passionate and enthusiastic at work. In addition, employees also feel appreciated or recognized for their work so they want to work hard, so that it has an impact on improving their performance. Efforts to achieve maximum employee motivation, the organization can provide what employees want at work. The level of performance increases with an employee's motivation to accomplish the work. In contrast, a person's degree of performance declines as their level of motivation for the job increases.

The results of this study support theoretical research, namely according to [23] employees are motivated to work toward organizational goals when they are led or directed toward them. Employees' motivation to work hard and deliver their best work when they have a positive attitude toward and a sense of fulfillment in their workplace.

This study is in line with the results of research conducted by [29] which found that employee performance is significantly and favorably affected by motivation. [16] which concludes that motivation has a positive and significant effect on employee performance. [28] which declares that the impact of leadership on worker performance is favorable and considerable. This comes to the conclusion that motivation affects worker performance in a favorable and significant way. This comes to the conclusion that employee performance is significantly and favorably affected by motivation.

Influence of Work Environment on Employee Performance

Based on the results of the research above, between work discipline and the performance of the head office employees of PDAM Tirtanadi, North Sumatra Province, the t count is 2.347 while the t table is 1.976 and has a significant number of 0.020 0.05, meaning H_0 is rejected and H_a is accepted. Based on these findings, it is possible to draw the conclusion that H_0 is rejected and H is accepted, indicating that the work environment at the PDAM Tirtanadi head office in the North Sumatra Province has a major impact on employees' performance to a lesser extent.

This is in line with the opinion [21] that a poor working environment can interfere with employees' ability to focus on their tasks, resulting in mistakes and a decline in employee performance. In other words, the state of the workplace has a significant impact on how motivated individuals are to work, which in turn affects how well they perform.

The results of this study support research through that according to [11] the workplace consists of any circumstances that affect employees' ability to perform their duties, either directly or indirectly.

This study is in line with the results of research conducted by [27] which found that discipline had a favorable and significant impact on worker performance. This comes to the conclusion that discipline has a favorable and considerable impact on worker performance [32] this comes to the conclusion that discipline has a favorable and considerable impact on worker performance. [8] which concludes that discipline has a positive and significant effect on employee performance.

The Effect of Motivation and Work Environment Together on Employee Performance

Based on the findings of the study on how the motivation and working conditions of PDAM Tirtanadi, North Sumatra Province personnel affected their performance. From the ANOVA (*Analysis of Variance*) test in the table above, the calculated F is 45.724 while the F table is known to be 3.055. Based on these results, it can be seen that the significant level is 0.000 0.05 so that H_0 is rejected and H_a is accepted. So it can be concluded that the variables of motivation and work environment together have a positive and significant effect on the performance of the employees of the PDAM Tirtanadi head office, North Sumatra Province.

This research is in line with the results of research conducted by [37] This comes to the conclusion that employee performance is positively and significantly impacted by motivation and the work environment. [1] This leads to the conclusion that motivation and the work environment have a positive and significant impact on employees' performance [14] This comes to the conclusion that employee performance is positively and significantly impacted by motivation and the work environment.

CONCLUSION

The following conclusions can be reached in light of the findings of the research and discussion that have already been mentioned :

It is known in part that motivation affects employees at the PDAM Tirtanadi, North Sumatra Province, head office in a favorable and significant way. PDAM Tirtanadi, North Sumatra Province employees' performance is known in part to be positively and significantly impacted by their work environment. In addition, it is well

recognized that the motivation and work environment of the staff at the PDAM Tirtanadi head office in the North Sumatra Province positively and significantly affect their performance.

REFERENCES

- [1] Afif, M. (2019). ¹⁵ The Influence of Motivation and Work Environment on Employee Performance in the Beverage Product Packing Division of PT. Lion Mas Pandaan. *Journal of Management Applications And Business Innovation* , 1 (2), 103–125.
- [2] Akbar, FH, Hamid, D., & Djudi, M. (2016). The Effect of Job Satisfaction on Organizational Commitment and Employee Performance (Study on Permanent Employees of PG Kebon Agung Malang). *Journal of Business Administration (JAB)* , 38 (2), 79–88.
- [3] Akdon. (2016). *Strategic Management* . Bandung: Alfabeta.
- [4] Ardan ¹⁸ . (2014). *Human Resource Management* . Yogyakarta: Science house.
- [5] Arda, M. (2017). The Effect of Job Satisfaction and Work Discipline on Employee Performance at Bank Rakyat Indone ⁶ . Putri Hijau Medan Branch. *Scientific Journal of Management & Business Vol. 18 No. 1, 2017, 45-60* , 18 (1), 7. Retrieved from <http://jurnal.umsu.ac.id/index.php/mbisnis>.
- [6] Astuti, R., & Iverizkinawati. (2018). The Effect of Leadership and Work Environment on Employee Job Satisfaction at PT. Sarana Agro Nusantara Medan. *Journal of Management Science* , 6 (1), 26–41.
- [7] Bismala, L., Arianty, N., & Farida, T. (2017). Organizational behavior. In *Organizational Behavior* . Medan: AQLI Institute for Research and Scientific Writing.
- [8] Bukhari, & Pasaribu, Sjahril E. (2019). The Influence of Motivation, Competence, and Work Environment on Employee Performance. *Maneggio: Scientific Journal of Masters in Management* , 2 (1), 89–103.
- [9] Busro, M. (2017). *Human Resource Management* (Expest, ed.). Yogyakarta.
- [10] Daulay, R., & Khair, H. (2017). *Management*. Medan: Aqli Institute for Research and Scientific Writing.
- [11] Elizar, E& Tanjung, H. (2018). Effect of Training, Competence, Work Environment on Employee Performance. *Maneggio: Scientific Journal of Masters in Management* , 1 , 46–58.
- [12] Paradise. (2017). The Effect of Motivation and Work Environment on Employee Performance. *Journal of Communication, Business, And Management* , 4 (1), 86–98.
- [13] Handayani, S., & Arianti, N. (2015). The Influence of Participatory Budgeting Through Organizational Culture, Management Style and Work Motivation on Managerial Performance and Job Satisfaction. *Journal of Accounting And Business Research* , 15 (1), 52–64.
- [14] Hasibuan, SM, & Bahri, S. (2018). The Influence of Leadership, Work Environment and Work Motivation on Performance. *Maneggio: Scientific Journal of Masters in Management* , 1 , 71–80.
- [15] Hasibuan, MS (2014). *Organization & Motivation* . Jakarta: PT. Earth Literature.
- [16] Jufrizen, J. (2018). The Role of Work Motivation in Moderating the Effect of Compensation and Work Discipline on Employee Performance. *Proceedings: The National Conferences Management and Business (NCMAB) 2018* , 405–424.
- [17] Jufrizen, J. (2017). The influence of ability and motivation on the performance of nurses in the study at the Medan Madani General Hospital. *Journal of Management Science Research* , 1 (1), 27–34. <https://doi.org/10.5281/zenodo.1036809>.
- [18] Julita, J., & Arianty, N. (2007). The Effect of Communication and Work Environment on Employee Performance At Pt . Jasa Marga (Persero) Tbk Belmera Medan branch. *IP Proceedings of the 2018 Asahan University Multidisciplinary National Seminar on Sciences* , 195–205.
- [19] Kadarisman, M. (2013). *Human Resource Development Management* . Jakarta: Rajawali Press.
- [20] cashmere. (2016). *Human Resource Management* . Depok: Rajawali Press.
- [21] Kaswan. (2017). *Industrial & organizational psychology* . Bandung: Alfabeta.
- [22] Kurnia, E., Daulay, R., & Nugraha, F. (2019). The Impact of Motivation Factors and Work Facilities on Employee Work Productivity in State-Owned Enterprises in Medan City. *Proceedings of the National Seminar on Entrepreneurship, 1(1), 2019, Pages 365-372* , 1 (1), 365–372.
- [23] Mangkunegara, AP (2018). *Company Human Resource Management* (S. Sandiasih, ed.). Bandung: PT. Offset Rosdakarya Youth.
- [24] Manullang, M. (2017). *Human Resource Management* . Medan: Akasha Sakti.
- [25] Marjaya, I., & Pasaribu, F. (2019). The Influence of Leadership, Motivation, And Training ¹³ Employee Performance. *Maneggio: Scientific Journal of Masters in Management* , 2 (1), 129–147. <https://doi.org/10.30596/maneggio.v2i1.3650>.
- [26] Mudjihartono, P., Teknik, M., University, I., Yogyakarta, A., Scorecard, B., & Decision, SP (2010). Decision Support System for Lecturer Performance Assessment Using the Balanced Scorecard Method (Case Study: Universitas Respati Yogyakarta). *National Seminar on Informatics 2010 (SemnasIF)* , 2010 (semnasIF), 82–90.
- [27] Permansari, R. (2013). The Effect of Motivation and Work Environment on the Performance of Pt. Augrah Raharjo Semarang. *Management Analysis Journal* , 2 (2), 1–9. <https://doi.org/10.15294/maj.v2i2.2493>.
- [28] Potu, A. (2013). Leadership, Motivation, and Work Environment Their Influence on Employee Performance at the Regional Office of the Directorate General of State Assets of North Sulawesi and North Maluku in Manado. *Journal of Economic Research, Management, Business And Accounting* , 1 (4), 1208–1218.
- [29] Prakoso, R. (2014). The Effect of Work Environment on Work Motivation and Employee Performance (Study on Employees of PT. AXA Financial Indonesia Malang Branch). *Journal of Business Administration S1 Universitas*

- Brawijaya* , 14 (2), 1–10.
- [30] Prayogi, A., & Nursidin, M. (2018). The Effect of Training and Motivation on Employee Performance. *Journal of Economics and Business Research* , 1 (November).
- [31] Purnamie, T. (2014). *The Role of Organizational Citizenship Behavior (OCB) in Improving Employee Performance* . Jakarta: Media Discourse Partners.
- [32] Saputra, H., Medinal, & Heriyani. (2017). Analysis of the Effect of Motivation and Work Environment on Employee Performance of Bank Danamon Savings and Loans (DSP) Palembang Cluster 2 Development Unit 1 Pangkalpinang. *Progressive Scientific Journal of Business Management (JIPMB)*, Volume 21, Number 2, November 2017 ISSN , 21 (November), 54–64.
- [33] Saripuddin, J., & Handayani, R. (2017). The Influence of Discipline and Motivation on Employee Performance At PT. Kemasindo Fast Nusantara Medan. *Collection of Journals for Lecturers at the Muhammadiyah University of North Sumatra*, 420. , 14(2) , 1 – 1 .
- [34] Siahaan, S., & Bahri, S. (2019). The Influence of Employee Placement, Motivation, and Work Environment on Employee Performance Syalimono Siahaan 1)* , Syaiful Bahri 2) 1.2. *Maneggio: Scientific Journal of Masters in Management* , 2 (1), 16–30.
- [35] Siagian, TS, & Khair, H. (2018). The Influence of Leadership Style and Work Environment on Employee Performance With Job Satisfaction as an Intervening Variable. *Maneggio: Scientific Journal of Masters in Management* , 1 (1), 59–70.
- [36] Siregar, S. (2016). *Descriptive Statistics for Research* . Jakarta: Rajawali Press.
- [37] Suandani, A. (2018). Against Employee Performance at Pt Perkebunan Nusantara III (Persero) Medan . 4 (2), 10 –136.
- [38] Sugiyono. (2009). *Educational Research Methods Quantitative, Qualitative, and R&D Approaches* . Bandung: CV. Alfabeta.
- [39] Sugiyono. (2016). *Research Methods Quantitative, Qualitative, and R&D* (New, ed.). Bandung: Alfabeta.
- [40] Sumardjo, M. (2018). *Human Resource Development Management* . Bandung: Alfabeta.
- [41] Sutrisno, E. (2010). *Organizational Culture* . Jakarta: Kencana Prenada Media Group.
- [42] Wibowo. (2015). *Behavior in Organizations* . Jakarta: Rajawali Press.
- [43] Wibowo. (2019). *Management from Basic Functions to Innovation* (1st ed.). Depok: Rajawali Press.

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