

ANALYSIS OF THE INFLUENCE OF LEADERSHIP STYLE AND WORK ENVIRONMENT ON EMPLOYEE LOYALTY THROUGH JOB SATISFACTION AT PT PLN (PERSERO) UP2D NORTH SUMATRA

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ABSTRACT

This study aims to explore the impact of leadership approach and working conditions on employee loyalty, using job satisfaction as an intermediary factor at PT PLN (Persero) UP2D North Sumatra. Quantitative methodology was used, specifically through survey techniques. Data were collected by distributing questionnaires to employees, and the results were evaluated using Partial Least Squares–Structural Equation Modeling (PLS-SEM). The results showed that both leadership approach and working conditions have a positive and substantial influence on job satisfaction. In addition, job satisfaction and working conditions were also proven to have a positive influence on employee loyalty. However, leadership approach did not show a significant direct impact on employee loyalty. Examination of the indirect effect showed that job satisfaction acts as a mediator in the relationship between leadership approach, work environment, and employee loyalty. As a result, it can be concluded that job satisfaction plays a significant role in increasing employee loyalty. Therefore, PT PLN (Persero) UP2D North Sumatra should focus on improving leadership efficiency and fostering a better work environment to improve employee satisfaction and loyalty.

Introduction

Human resources are crucial for a company because they significantly impact the achievement of business goals. In the face of increasing global competition, a company's success depends not only on advanced technology or financial resources, but also largely on its ability to manage and retain skilled and dedicated staff members. Loyal employees typically demonstrate high performance, dedication to organizational goals, and a strong desire to remain with the company long-term. Consequently, initiatives to cultivate and maintain employee loyalty are crucial for all companies, including PT PLN (Persero)

UP2D North Sumatra. As a state-owned electricity company, PT PLN (Persero) has the primary duty of ensuring a reliable and sustainable electricity supply for the community. To fulfill this role, PLN must provide high-quality services supported by professional, productive, and highly committed human resources. The North Sumatra Distribution Regulation Implementation Unit (UP2D) is a vital department responsible for managing electricity distribution effectively and efficiently. Therefore, employee loyalty within the UP2D North Sumatra is a key element in ensuring operational sustainability and maintaining service quality for the community.

However, observations indicate that declining employee loyalty is a common problem in many organizations, including state-owned enterprises like PLN. Signs of this decline include decreased work motivation, higher absenteeism rates, lower productivity, and employees seeking positions elsewhere. This situation can arise from several factors, such as ineffective leadership approaches, an unsuitable work environment, and inadequate levels of job satisfaction among employees. Leadership style is a crucial aspect that shapes employee perceptions and actions in their duties. Good leadership not only aims to achieve organizational goals but also considers the welfare, needs, and growth of employees' abilities. Leaders who can provide guidance, encouragement, and inspiration to their teams will foster a sense of belonging and increase employee commitment to the organization. Conversely, a leadership approach that is overly controlling, lacking transparency, and has limited communication can lead to job dissatisfaction, which negatively impacts employee loyalty. Therefore, adopting an effective and adaptive leadership style is crucial for the management of PT PLN (Persero) UP2D North Sumatra to consider.

In addition to leadership, the work environment significantly influences how loyal employees feel. A supportive environment can create a pleasant atmosphere, foster good relationships between colleagues, and be supported by adequate facilities. A positive environment increases motivation, reduces stress, and creates a sense of security among workers. For PLN, the work environment encompasses not only physical elements such as the quality of the workspace, security, and cleanliness, but also social factors such as interactions between managers and staff, and collaboration in carrying out operational tasks. If the work environment is not supportive, workers may feel uncomfortable, lose motivation, and ultimately demonstrate lower loyalty to the organization. Job satisfaction is a crucial factor linking leadership style, the work environment, and employee loyalty. It indicates how much employees value and enjoy their work, encompassing aspects such as salary, working conditions, career development opportunities, and workplace relationships. Workers who are highly satisfied with their jobs are typically passionate, responsible, and willing to remain with the organization. Conversely, dissatisfaction can lead to burnout, unhappiness, and result in weakened employee loyalty.

At PT PLN (Persero) UP2D North Sumatra, the problems faced involve not only technical and operational challenges, but also matters related to human resource management. The fast-paced work environment, task complexity, and public service expectations can affect employee satisfaction and loyalty levels. Therefore, it is crucial to adopt strategic measures that encourage participatory and communicative leadership, as well as create a supportive workplace, so that employees can work effectively and commit to the organization in the long term. From this discussion, it is clear that leadership style, work environment, and job satisfaction are interrelated factors that influence employee

loyalty. Good leadership and a friendly work environment can increase job satisfaction, which in turn strengthens employee loyalty to the organization. Therefore, the study entitled "Analysis of the Influence of Leadership Style and Work Environment on Employee Loyalty through Job Satisfaction at PT PLN (Persero) UP2D North Sumatra" aims to provide insight into how leadership methods and work atmosphere shape employee loyalty, particularly through the role of job satisfaction. The findings of this study are expected to provide deeper insights. Aimed at guiding management at PT PLN (Persero) UP2D North Sumatra in developing more effective and sustainable human resource management strategies.

Formulation of the problem

Based on the background given, the research problem can be formulated as follows:

Problem Formulation

1. Does leadership style have a positive and significant effect on employee loyalty at PT PLN (Persero) UP2D North Sumatra?
2. Does work environment have a positive and significant effect on employee loyalty at PT PLN (Persero) UP2D North Sumatra?
3. Does leadership style have a positive and significant effect on job satisfaction at PT PLN (Persero) UP2D North Sumatra?
4. Does work environment have a positive and significant effect on job satisfaction at PT PLN (Persero) UP2D North Sumatra?
5. Does job satisfaction have a positive and significant effect on employee loyalty at PT PLN (Persero) UP2D North Sumatra?
6. Does leadership style have a positive and significant effect on employee loyalty through job satisfaction at PT PLN (Persero) UP2D North Sumatra?
7. Does work environment have a positive and significant effect on employee loyalty through job satisfaction at PT PLN (Persero) UP2D North Sumatra?

Research Objectives

Based on the given problem statement, this research aims to:

1. To test and analyze the effect of leadership style on employee loyalty at PT PLN (Persero) UP2D North Sumatra.
2. To test and analyze the effect of work environment on employee loyalty at PT PLN (Persero) UP2D North Sumatra.
3. To test and analyze the effect of leadership style on employee job satisfaction at PT PLN (Persero) UP2D North Sumatra.
4. To test and analyze the effect of work environment on employee job satisfaction at PT PLN (Persero) UP2D North Sumatra.
5. To test and analyze the effect of job satisfaction on employee loyalty at PT PLN (Persero) UP2D North Sumatra.
6. To test and analyze the effect of leadership style on employee loyalty through job satisfaction at PT PLN (Persero) UP2D North Sumatra.
7. To test and analyze the effect of work environment on employee loyalty through job satisfaction at PT PLN (Persero) UP2D North Sumatra.

Benefits of research

The results of this study are expected to provide understanding from an academic and practical perspective, as explained below:

1. Academic Excellence

This study aims to advance current insights, particularly in the field of human resource management, regarding the impact of leadership style and workplace climate on employee loyalty, with job satisfaction as a mediator. Furthermore, the results are expected to strengthen and complement existing theories and serve as an additional resource for future researchers exploring similar topics.

2. Practical Benefits

a. For the Company (PT PLN (Persero) UP2D North Sumatra)

This study aims to provide valuable guidance for management in developing policies and strategies aimed at increasing employee loyalty by adopting effective leadership techniques and fostering a supportive work environment. By implementing this approach, organizations can foster a more cooperative and efficient atmosphere, which will ultimately improve overall performance.

b. For Employees

The findings of this study are expected to raise employee awareness of the importance of job satisfaction and organizational loyalty. With this awareness, employees should cultivate a sense of belonging, strengthen their commitment, and actively contribute to achieving company goals.

c. For future researchers

This study can serve as a practical reference for future researchers who wish to investigate the relationship between leadership style, work environment, job satisfaction, and employee loyalty in various organizational settings.

Employee Loyalty

According to Iskandar & Yuhansyah (2018), loyalty is an employee's faithfulness to the institution where they work, encompassing loyalty to the position, job, and organization. An employee must always faithfully defend the institution's interests under any conditions. According to Ardial (2018), work loyalty can be defined as how an employee consciously dedicates their service to the company or organization according to the scope of their position, obeys and follows their superiors, and performs their duties to the best of their ability.

Indicators of Employee Loyalty

According to Ardial (2018):

1. Obedience.
2. Responsibility
3. Dedication
4. Honesty

Factors Influencing Employee Loyalty

According to Ardial (2018) in his research on work behavior and employee motivation, loyalty is a form of employee devotion reflected in the willingness to work

with full responsibility, discipline, and a sense of belonging to the organization. Employee loyalty can be influenced by several main factors, namely:

1. Work Motivation Employees with a strong drive to achieve and contribute to the organization tend to show high loyalty.
2. Leadership, Fair, exemplary, and caring leadership attitudes towards subordinates can foster respect and loyalty among employees.
3. Work Discipline, Good discipline shows an employee's commitment to rules and organizational goals, reflecting work loyalty.
4. Job Satisfaction, When employees feel satisfied with compensation, work environment, and relationships with colleagues and superiors, their level of loyalty increases.
5. Work Environment, Comfortable, safe, and collaborative working conditions will create a sense of comfort and a desire to stay in the organization.
6. Recognition and Appreciation, Rewarding employee achievements and contributions makes them feel valued and fosters loyalty to the organization.

Leadership Style

According to Zaharuddin (2021), leadership style is the behavior or method chosen and used by a leader to influence the thoughts, feelings, attitudes, and behavior of their organization. According to Rakhma et al. (2022), leadership style is a pattern of behavior designed to influence subordinates so they can maximize their performance, thereby maximizing organizational performance and goals, as well as motivating employees, which is expected to result in high productivity.

Indicators of Leadership Style

According to Zaharuddin (2021), indicators of leadership style are:

1. Decision-Making Ability
2. Motivational Ability
3. Communication Ability
4. Ability to Control Subordinates
5. Responsibility

Work Environment

According to Schultz (2019), the work environment or conditions refer to all aspects of physical work, psychological work, and work regulations that can affect job satisfaction and work productivity. According to Saputra (2021), the work environment is the social, psychological, and physical life within a company that greatly influences employees in carrying out their duties.

Indicators of Work Environment

According to Schultz & Schultz (2016), work environment indicators can be grouped into three main categories:

1. Physical Work Environment
2. Psychological Work Environment
3. Social Work Environment

Job Satisfaction

According to Bhastary (2020), job satisfaction is an attitude, behavior, and vision of an employee in carrying out their work. According to Jumiran et al. (2020), job satisfaction is described as an internal state expressed by affective and/or cognitive evaluations of work experiences.

Indicators of Job Satisfaction

According to Bhastary (2020), indicators of job satisfaction are:

1. Working Conditions
2. Income (Salary and Benefits)
3. Promotion
4. Relationship with Coworkers
5. Relationship with Superiors
6. The Job Itself
7. Job Security
8. Recognition and Appreciation
9. Work-Life Balance

Conceptual Framework

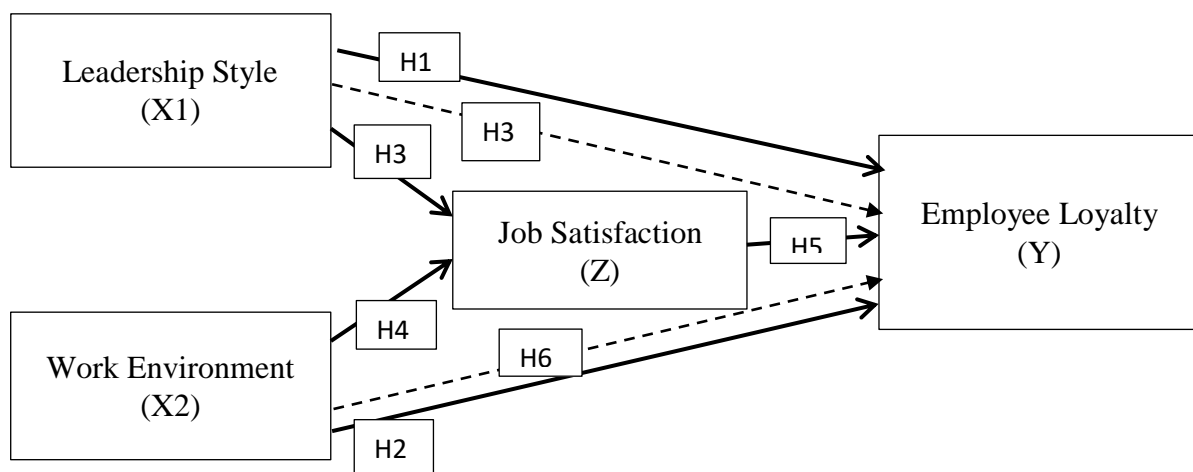


Figure I Conceptual Framework

Research Hypotheses

The research hypotheses are as follows:

1. Leadership style has a positive and significant effect on employee loyalty at PT PLN (Persero) UP2D North Sumatra.
2. Work environment has a positive and significant effect on employee loyalty at PT PLN (Persero) UP2D North Sumatra.
3. Leadership style has a positive and significant effect on job satisfaction at PT PLN (Persero) UP2D North Sumatra.

4. Work environment has a positive and significant effect on job satisfaction at PT PLN (Persero) UP2D North Sumatra.
5. Job satisfaction has a positive and significant effect on employee loyalty at PT PLN (Persero) UP2D North Sumatra.
6. Leadership style has a positive and significant effect on employee loyalty through job satisfaction at PT PLN (Persero) UP2D North Sumatra.
7. Work environment has a positive and significant effect on employee loyalty through job satisfaction at PT PLN (Persero) UP2D North Sumatra.

Research Methodology

Research Approach and Type

This research is quantitative with an explanatory approach (explaining relationships between variables) and uses Partial Least Squares Structural Equation Modeling (PLS-SEM) estimated using the SmartPLS software. PLS-SEM was chosen because it is suitable for prediction purposes, relatively complex models, data that does not necessarily need to be normally distributed, and its suitability for moderate to small sample sizes according to the guidelines of Hair et al. (2019).

Research Location and Time

The research was conducted at PT PLN (Persero) Distribution Control Implementation Unit (UP2D) North Sumatra, located at Medan City, Jl. KL. Yos Sudarso No.284, Glugur Kota, Kecamatan Medan Barat, Kota Medan, Sumatera Utara 20238 (PT PLN UP2D North Sumatra Office). The research was conducted from November to December 2025;

Research Population and Sample

The population in this study were all employees of PT PLN (Persero) UP2D North Sumatra, totaling 117 people. According to Arikunto (2019), a population is the entire research subject with certain characteristics to be studied. According to Sugiyono (2019), a saturated sampling technique is a sampling determination technique when all population members are used as a sample due to a relatively small population size. Therefore, the sample size in this study was 117 employees of PT PLN (Persero) UP2D North Sumatra.

Data Types and Sources

The information used in this study is quantitative, meaning it is presented in numerical format and can be analyzed using statistical methods to explain the relationships between research variables. Quantitative data is data that can be measured numerically and aims for impartial analysis (Sugiyono, 2019). For this study, quantitative data was collected through a survey completed by workers at PT PLN (Persero) UP2D North Sumatra. Regarding data source, this study includes primary and secondary data.

1. Primary Data

Primary data was collected directly from participants by distributing questionnaires to all employees included in the research sample. Primary data consists of information collected directly by researchers from original sources using research tools such as questionnaires, interviews, or observations (Sekaran & Bougie, 2019). In this study, primary data was used to assess aspects such as leadership style, work environment, job satisfaction, and employee dedication.

2. Secondary Data

Secondary data includes information obtained indirectly from existing sources and used to improve research. This type of data can come from documents, official reports, books, scientific journals, and other publications relevant to the research focus (Sugiyono, 2019). For this particular study, secondary data was obtained from internal company documents, reference texts, scientific articles, and previous research findings related to the research variables.

Method of collecting data

Data collection techniques relate to the strategies used by researchers to gather important information that aligns with their research objectives. The data collection process is a crucial stage in research because data quality significantly impacts research outcomes (Sugiyono, 2019). Furthermore, data collection can also be viewed as an organized approach to obtaining information from participants using structured tools to answer research questions (Creswell, 2018).

Data Collection Technique

The data collection methods applied in this study are listed below:

Survey

The primary data collection method for this study was a survey administered to all 117 staff members of PT PLN (Persero) UP2D North Sumatra. The survey was designed using a five-point Likert scale with responses ranging from "Strongly Disagree" to "Strongly Agree." Surveys are an effective data collection method when researchers are familiar with the variables being assessed and the respondents serving as data sources (Sugiyono, 2019). The questions included in the survey were developed based on indicators of each research variable established from theoretical foundations and previous studies, which include leadership style, work environment, job satisfaction, and employee loyalty.

Data Analysis Technique

Data analysis in this research uses the Partial Least Squares (PLS) approach with the help of the SmartPLS 3.3.3 program. According to Ghazali and Latan (2018), Partial Least

Squares (PLS) is an alternative approach to variance-based Structural Equation Modeling (SEM) used to test the model of relationships between latent variables (constructs) that are predictive. The PLS model consists of two parts: the measurement model (outer model) and the structural model (inner model).

Measurement Model (Outer Model)

The measurement model serves to evaluate the relationship between latent variables and their respective indicators. The external model assessment is conducted through several evaluation phases, as described below:

1. **Convergent Validity Examination** Convergent validity is used to assess how well an indicator can represent the construct being evaluated. Convergent validity testing is carried out by verifying that the expected factor loading value exceeds 0.70 and that the Average Variance Extracted (AVE) value is greater than 0.50. High loading values indicate that the indicator effectively explains the construct being assessed (Hair et al., 2019).
2. **Validity Verification** Discriminant validity is used to ensure that each construct in the model is truly distinct and does not overlap with other constructs. To test discriminant validity, one can evaluate the Fornell-Larcker Criterion and the Cross Loading value, which indicates that the loading value of an indicator on its related construct must exceed the loading on a different construct (Ghozali & Latan, 2018).
3. **Reliability Assessment** Reliability assessment is conducted to evaluate how consistent the indicators are in assessing a construct. The consistency of a construct is determined by the Composite Reliability (CR) and Cronbach's Alpha values, where values above 0.70 indicate that the indicators in the construct maintain a high level of reliability (Hair et al., 2019).

Structural Model (Inner Model)

The internal model serves to examine the relationship between latent variables based on predetermined research hypotheses. Assessment of the internal model involves the following evaluations:

1. **Evaluation of the Determination Coefficient (R-Square)** The R-Square (R^2) value is used to determine the extent to which the independent variable can explain the changes seen in the dependent variable. An R^2 value of 0.67 indicates a strong relationship, 0.33 indicates a moderate relationship, and 0.19 indicates a weak relationship (Ghozali & Latan, 2018).
2. **Predictive Relevance Evaluation (Q^2)** The Q^2 assessment is used to evaluate the model's capacity to predict outcomes. A model is considered to have adequate predictive power if the Q^2 value exceeds zero (Hair et al., 2019).

3. Significance Evaluation (Hypothesis Testing) Hypothesis evaluation is carried out using the bootstrapping method to obtain t-statistics and p-values. The hypothesis is accepted if the t-statistic value exceeds 1.96 at a significance level of 5 percent, while the p-value is less than 0.05 (Ghozali & Latan, 2018).

Results and Discussion

Outer Model Analysis

Measurement model evaluation, also known as external model testing, is conducted to examine how latent variables relate to observed variables (indicators) in a research context. External model assessment involves checking convergent validity, discriminant validity, and construct reliability.

Convergent Validity

In a measurement model using reflective indicators, convergent validity is demonstrated by a strong correlation between indicator scores and the scores of the construct being evaluated. During the model building phase, indicators with factor loading values higher than 0.70 are classified as excellent, while values ranging from 0.50 to 0.60 are still acceptable if they help support construct validity (Hair et al., 2019). Test results indicate that several indicators have outer loading values below 0.60, indicating their involvement in the construct is not ideal. The structural model for the next phase of the research is illustrated in the following figure.

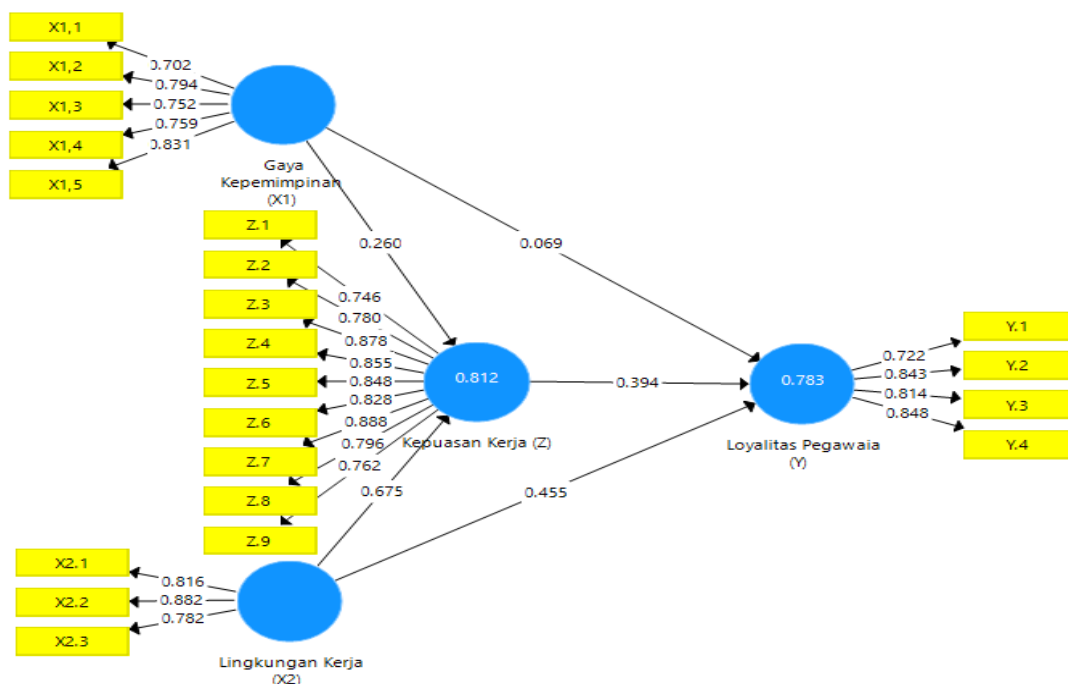


Figure 2. Outer Model

Source: Smart PLS 3.3.3

In the results of the outer model, there are equations in the research. These equations are divided into 2 substructures, including the following:

Substructure 1

$$Z = b1X1 + b2X2 + e$$

$$Z = 0.260 + 0.675$$

Substructure 2

$$Y = b3X1 + b4X2 + b5Z + e$$

$$Y = 0.069 + 0.455 + 0.394$$

Table 1. Outer Loadings

	Leadership Style (X1)	Job Satisfaction (Z)	Work Environment (X2)	Employee Loyalty (Y)
X1,1	0.702			
X1,2	0.794			
X1,3	0.752			
X1,4	0.759			
X1,5	0.831			
X2,1			0.816	
X2,2			0.882	
X2,3			0.782	
Y.1				0.722
Y.2				0.843
Y.3				0.814
Y.4				0.848
Z.1		0.746		
Z.2		0.780		
Z.3		0.878		
Z.4		0.855		
Z.5		0.848		
Z.6		0.828		
Z.7		0.888		
Z.8		0.796		
Z.9		0.762		

Source: Smart PLS 3.3.3

According to Table 1, each measure related to the factors of Leadership Style, Work Environment, Job Satisfaction, and Employee Loyalty shows an external loading value exceeding 0.70. These results indicate that each measure effectively represents the concept being assessed and therefore meets the requirements for convergent validity. Therefore, all measures are considered valid and suitable for continuing the structural model analysis.

Discriminant Validity

The next stage involves testing discriminant validity, which aims to confirm that each reflective measure accurately measures its designated construct. This testing operates on the premise that a measure should demonstrate a stronger relationship with its unique structure than with other structures. The findings from the discriminant validity evaluation through cross-loading analysis are presented in the table below.

Table 2. Discriminant Validity

	Leadership Style (X1)	Job Satisfaction (Z)	Work Environment (X2)	Employee Loyalty (Y)
X1,1	0.702	0.512	0.585	0.480
X1,2	0.794	0.587	0.586	0.589
X1,3	0.752	0.655	0.651	0.620
X1,4	0.759	0.672	0.606	0.594
X1,5	0.831	0.686	0.728	0.640
X2,1	0.736	0.691	0.816	0.675
X2,2	0.778	0.804	0.882	0.800
X2,3	0.521	0.708	0.782	0.657
Y,1	0.545	0.582	0.596	0.722
Y,2	0.676	0.666	0.711	0.843
Y,3	0.580	0.687	0.681	0.814
Y,4	0.666	0.808	0.784	0.848
Z,1	0.601	0.746	0.649	0.617
Z,2	0.668	0.780	0.714	0.740
Z,3	0.707	0.878	0.828	0.762
Z,4	0.634	0.855	0.747	0.621
Z,5	0.681	0.848	0.737	0.726
Z,6	0.705	0.828	0.706	0.663
Z,7	0.730	0.888	0.811	0.749
Z,8	0.659	0.796	0.672	0.707
Z,9	0.636	0.762	0.691	0.718

Source: Smart PLS 3.3.3

As shown in Table 2, the findings from the discriminant validity evaluation indicate that each indicator aligns more closely with the construct it represents than with the other constructs. This finding indicates that indicators related to Leadership Style, Work Environment, Job Satisfaction, and Employee Loyalty can clearly identify each construct. Thus, all constructs in this research framework meet the criteria for discriminant validity and are suitable for the next stage of analysis.

Composite Reliability

Construct reliability testing is conducted using indicator blocks to evaluate the level of internal consistency of the composite construct. A construct is considered reliable when its

composite reliability score exceeds 0.60. In addition, construct reliability can be assessed through the Cronbach's Alpha score of the indicators that form the construct. A construct is defined as having strong reliability when the Cronbach's Alpha value is above 0.70. The table below illustrates the construct loading values of the research variables, obtained through data analysis using SmartPLS software.

Table 3. Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Leadership Style (X1)	0.826	0.878	0.591
Job Satisfaction (Z)	0.939	0.949	0.675
Work Environment (X2)	0.769	0.867	0.685
Employee Loyalty (Y)	0.822	0.883	0.653

Source: Smart PLS 3.3.3

According to Table 3, all variables exhibit Cronbach's Alpha scores and composite reliability values above 0.70, leading to the conclusion that each concept exhibits strong internal reliability. Furthermore, the Average Variance Extracted (AVE) value for each construct exceeds 0.50, confirming that the convergent validity criteria are met. Thus, each variable in this study is considered valid and reliable for the next phase of model testing.

Internal Model Analysis

The internal model, also known as the structural model, is assessed to determine the accuracy and strength of the relationships between the latent variables under study. This model evaluation is conducted using various test indicators that describe the quality of the structural model in the study.

Coefficient of Determination (R²)

From the data analysis carried out using SmartPLS 3.0 software, the coefficient of determination (R²) value was found as follows

Table 4. R Square Results

	R Square	Adjusted Square	R
Job Satisfaction (Z)	0.812	0.809	
Employee Loyalty (Y)	0.783	0.777	

Source: Smart PLS 3.3.3

According to Table 4, the R-square value for Job Satisfaction is 0.812, while Employee Loyalty has a value of 0.783. This indicates that most of the changes in each dependent variable can be explained by the independent variables in the research model. The Adjusted R-square value, which is in line with the R-square value, indicates that the model has strong and consistent predictive ability. Thus, this research model is considered good quality and suitable for use in the next stage of analysis.

Hypothesis Testing

After evaluating the internal model, the next step is to test the proposed relationships between the latent constructs in the study. Hypothesis testing is performed using the T statistic and P value. The hypothesis is accepted if the T statistic is greater than 1.96 and the P value is less than 0.05. The results of the path coefficient test for the direct effect are presented as follows:

Table 5. Path Coefficients (Direct Effect)

	Original Sample (O)	T Statistics (O/STDEV)	P Values	Results
Leadership Style (X1) -> Job Satisfaction (Z)	0.260	3,805	0,000	Accepted
Leadership Style (X1) -> Employee Loyalty (Y)	0.069	0.985	0.162	Rejected
Job Satisfaction (Z) -> Employee Loyalty (Y)	0.394	3,835	0,000	Accepted
Work Environment (X2) -> Job Satisfaction (Z)	0.675	10,488	0,000	Accepted
Work Environment (X2) -> Employee Loyalty (Y)	0.455	4,714	0,000	Accepted

Source: Smart PLS 3.3.3

1. The Influence of Leadership Style on Job Satisfaction
The analysis results show a coefficient of 0.260, with a T statistic of 3.805 and a p-value of 0.000. This indicates that leadership style has a positive and significant influence on job satisfaction, thus validating the hypothesis.
2. The Influence of Leadership Style on Employee Loyalty
The test findings showed a coefficient of 0.069, with a T-statistic of 0.985 and a p-value of 0.162. This indicates that leadership style does not significantly influence employee loyalty, thus rejecting the hypothesis.
3. The Influence of Job Satisfaction on Employee Loyalty
The test results show a coefficient of 0.394, with a T statistic of 3.835 and a p-value of 0.000. This indicates that job satisfaction has a positive and significant influence on employee loyalty, thus confirming the hypothesis.
4. The Influence of Work Environment on Job Satisfaction
The analysis results show a coefficient of 0.675, with a T statistic of 10.488 and a p-value of 0.000. This indicates that the work environment has a positive and significant effect on job satisfaction, which means the hypothesis is accepted.

5. The Influence of the Work Environment on Employee Loyalty

The test results show a coefficient of 0.455, with a T statistic of 4.714 and a p-value of 0.000. Consequently, the work environment significantly influences employee loyalty. uh has a positive and significant effect on employee loyalty, so the hypothesis is accepted.

Table 6. Path Coefficients (Indirect Effect)

	Original Sample (O)	T Statistics (O/STDEV)	P Values	Results
Leadership Style (X1) -> Job Satisfaction (Z) -> Employee Loyalty (Y)	0.102	2,558	0.005	Accepted
Work Environment (X2) -> Job Satisfaction (Z) -> Employee Loyalty (Y)	0.266	3,514	0,000	Accepted

Source: Smart PLS 3.3.3

6. The Influence of Leadership Approach on Employee Commitment through Job Satisfaction

The analysis results show a coefficient of 0.102, accompanied by a T statistic of 2.558 and a p-value of 0.005. These data indicate that Leadership Approach positively and significantly influences Employee Commitment through Job Satisfaction, thus the hypothesis is accepted. These results highlight that although Leadership Approach may not directly influence Employee Commitment significantly, its influence becomes relevant when Job Satisfaction is included as a factor.

7. The Influence of Workplace Atmosphere on Employee Commitment through Job Satisfaction

The analysis results show a coefficient of 0.266, with a T statistic of 3.514 and a p-value of 0.000. These findings indicate that Workplace Atmosphere positively and significantly influences Employee Commitment through Job Satisfaction, so the hypothesis is accepted. These results support H5, which states that Workplace Atmosphere positively and significantly influences Employee Commitment directly, indicating that Job Satisfaction acts as a mediating factor that strengthens this relationship.

Conclusion

In this study, the authors came to the following conclusions:

1. The Influence of Leadership Style on Job Satisfaction. It has been shown that leadership style positively and significantly influences job satisfaction, indicating that a more effective leadership style leads to higher job satisfaction among employees.
2. The Influence of Leadership Style on Employee Loyalty. Leadership style does not significantly influence employee loyalty, meaning that employee loyalty is not directly influenced by leadership style.

3. The Influence of Job Satisfaction on Employee Loyalty. Job satisfaction positively and significantly influences employee loyalty, indicating that satisfied employees tend to demonstrate greater loyalty.
4. The Influence of the Work Environment on Job Satisfaction. The work environment positively and significantly influences job satisfaction, indicating that favorable working conditions increase employee satisfaction.
5. The Influence of the Work Environment on Employee Loyalty. The work environment has a positive and significant influence on employee loyalty, indicating that a supportive work environment fosters loyalty to the organization.
6. The Influence of Leadership Style on Employee Loyalty through Job Satisfaction. Leadership style has a positive and significant influence on employee loyalty through job satisfaction, meaning job satisfaction acts as a mediating factor in this relationship.
7. The Influence of the Work Environment on Employee Loyalty through Job Satisfaction. The work environment has a positive and significant influence on employee loyalty through job satisfaction, indicating that job satisfaction strengthens the influence of the work environment on employee loyalty.

References

- [1]Anwar Adnalín, Sri Rahayu, MT Daulay, Saimara AM Sebayang, E Wakhyuni, Yanti R Lubis, Elfitra D Surya, Yossie Rossanty, MDTP Nasution (2018), [*The effect of islamic work ethics, organizational culture, and total quality management toward changes in organizational attitudes with organizational commitment as an intervening variable*](#), IAEME Publication
- [2]Ardial. (2018). *Komunikasi Organisasi dalam Konteks Teori dan Praktik*. Jakarta: Rajawali Pers.
- [3]Ariani, D. W. (2019). *Kepemimpinan dan Perilaku Organisasi*. Yogyakarta: Deepublish.
- [4]Arikunto, S. (2019). *Prosedur Penelitian: Suatu Pendekatan Praktik* (Edisi Revisi). Jakarta: Rineka Cipta.
- [5]A Dwipayana, KF Ferine, N Nuzuliati (2023), [*The Influence of Work Discipline and Leadership on Employee Performance with Employee Work Motivation as An Intervening Variable at Airport Authority Office Region II Medan*](#), SINOMIKA Journal: Publikasi Ilmiah Bidang Ekonomi Dan Akuntansi
- [6]Bhastary, D. R. (2020). *Analisis Pengaruh Job Satisfaction terhadap Kinerja Karyawan pada PT XYZ*. Yogyakarta: Deepublish.
- [7]Creswell, J. W. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). Thousand Oaks, CA: SAGE Publications.
- [8]Ghozali, I., & Latan, H. (2018). *Partial Least Squares: Konsep, Metode dan Aplikasi SmartPLS 3.0 untuk Penelitian Empiris*. Semarang: Badan Penerbit Universitas Diponegoro.

- [9]Gibson, J. L., Ivancevich, J. M., Donnelly, J. H., & Konopaske, R. (2018). *Organizations: Behavior, Structure, Processes*. New York: McGraw-Hill Education.
- [10]Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd ed.). Thousand Oaks, CA: SAGE Publications.
- [11]Handoko, T. H. (2016). *Manajemen Personalia dan Source Daya Manusia*. Yogyakarta: BPFE.
- [12]Hasibuan, M. S. P. (2017). *Manajemen Source Daya Manusia*. Jakarta: Bumi Aksara.
- [13]H Sembiring, Kiki Farida Ferine (2018), [*Membangun Kepuasan dan Kinerja Pegawai Negeri Sipil*](#), Deepublish Penerbitan CV Budi Utama
- [14]Iskandar, M., & Yuhansyah, R. (2018). *Perilaku Organisasi: Konsep dan Aplikasi dalam Dunia Kerja*. Bandung: Alfabeta.
- [15]Jumiran, D., Lestari, A., & Wulandari, S. (2020). *Manajemen Source Daya Manusia dan Job Satisfaction*. Jakarta: Mitra Wacana Media.
- [16]KF Ferine, R Aditia, MF Rahmadana (2021), [*An empirical study of leadership, organizational culture, conflict, and work ethic in determining work performance in Indonesia's education authority*](#), Helyon
- [17]Mangkunegara, A. P. (2017). *Manajemen Source Daya Manusia Perusahaan*. Bandung: Remaja Rosdakarya.
- [18]MS Menganjur, ED Surya (2025) Analysis of Stress and Work Motivation on Employee Performance with Work Environment as a Mediation Variable at PT PLN Nusantara Power Generation Maintenance Unit (UPHK) Medan, *Journal of Research in Social Science and Humanities*, 2025
- [19]PLN (Persero). (2023). *Laporan Tahunan PT PLN (Persero) 2023: Transformasi Energi untuk Masa Depan Berkelanjutan*. Jakarta: PT PLN (Persero).
- [20]Rakhma, A., Putri, F. N., & Sari, D. P. (2022). *Kepemimpinan Efektif dalam Organisasi Modern*. Yogyakarta: Deepublish.
- [21]Robbins, S. P., & Judge, T. A. (2019). *Perilaku Organisasi* (Edisi 17). Jakarta: Salemba Empat.
- [22]Saputra, R. (2021). *Pengaruh Work Environment terhadap Kinerja Karyawan*. Jakarta: Media Discourse Indonesia.
- [23]Schultz, D. P. (2019). *Industrial and Organizational Psychology: An Applied Approach*. Boston: Cengage Learning.
- [24]Sedarmayanti. (2018). *Manajemen Source Daya Manusia: Reformasi Birokrasi dan Manajemen Pegawai Negeri Sipil*. Bandung: Refika Aditama.
- [25]Sekaran, U., & Bougie, R. (2019). *Research Methods for Business: A Skill-Building Approach* (8th ed.). Hoboken, NJ: John Wiley & Sons.
- [26]Siagian, S. P. (2018). *Teori dan Praktik Kepemimpinan*. Jakarta: Rineka Cipta.
- [27]Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan Kombinasi (Mixed Methods)*. Bandung: Alfabeta.

- [28] Sutrisno, E. (2020). *Manajemen Source Daya Manusia*. Jakarta: Kencana Prenada Media Group.
- [29] Wibowo. (2016). *Manajemen Kinerja*. Jakarta: Rajawali Pers.
- [30] Zaharuddin. (2021). *Kepemimpinan dan Motivasi dalam Organisasi*. Jakarta: Bumi Aksara.