The Effect of Human Resource Quality and Work Environment on Employee Performance at the Representative Office of Bank Indonesia Pematang Siantar

Muhammad Ihsan Harahap, Kholilul Kholik, Muhammad Toyib Daulay

Abstract

This study aims to examine and analyze the effect of Human Resource (HR) Quality and Work Environment on Employee Performance at the Bank Indonesia Pematang Siantar Representative Office, both partially and simultaneously. The research method used is quantitative research with an associative approach. The population in this study consists of all 38 employees of the Bank Indonesia Pematang Siantar Representative Office, using a saturated (census) sampling technique so that the entire population was used as the sample. Data were collected through a questionnaire using a 1-5 Likert scale, then analyzed using validity tests, reliability tests, classical assumption tests, and multiple linear regression analysis with the help of statistical software.

The results show that all statement items in the research instrument were valid (r calculated > r table = 0.320) and reliable (Cronbach's Alpha > 0.60). The classical assumption tests showed that the data were normally distributed, with no multicollinearity and no heteroscedasticity. The multiple regression analysis produced the equation Y = 6.054 + 0.460X1 + 0.278X2. HR Quality (X1) has a positive and significant effect on Employee Performance (Y), with a calculated t-value of 4.253 and significance of 0.000 (< 0.05). Work Environment (X2) has a positive and significant effect on Employee Performance (Y), with a calculated t-value of 2.641 and significance of 0.012 (< 0.05). Simultaneously, HR Quality and Work Environment have a positive and significant effect on Employee Performance, with a calculated F-value of 13.212 and significance of 0.000 (< 0.05). The coefficient of determination (R Square) is 0.430, meaning that HR Quality and Work Environment together are able to explain 43.0% of the variation in Employee Performance, while the remaining 57.0% is explained by other variables outside this study.

Based on the research results, the Bank Indonesia Pematang Siantar Representative Office is advised to continue improving HR quality through education and training, as well as improving work environment conditions to optimally enhance employee performance.

Keywords: HR Quality, Work Environment, Employee Performance.

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Introduction

Human resources are the main asset that determines the success of an organization in achieving its goals, including at the Bank Indonesia Pematang Siantar Representative Office. Amid increasingly complex institutional demands, organizations require employees with optimal performance in order to provide quality services and work results. Employee performance is influenced by various factors, including the quality of human resources possessed and the work environment conditions in which employees carry out their duties.

Uneven HR quality remains a problem in several institutions, including in terms of mastery of knowledge, technical skills, and professional work attitudes. Employees who do not yet have adequate competence tend to have difficulty completing work according to established standards, which impacts the overall decline in performance. In addition, the work environment also plays an important role in supporting employee productivity. An uncomfortable work environment, both physical (lighting, air temperature, work facilities) and non-physical (work relationships and security), can reduce employee motivation and concentration at work, which ultimately impacts low employee performance.

Literature Review

2.1 Employee Performance

According to Mangkunegara (2017), performance is the quality and quantity of work results achieved by an employee in carrying out their duties in accordance with the responsibilities given to them. According to Robbins and Judge (2018), performance is the result of an evaluation of work that has been done compared to jointly established criteria.

2.2 Factors Affecting Employee Performance

According to Mangkunegara (2017), the factors that affect employee performance include:

1. Ability factors, namely the potential and actual ability of employees in carrying out their work.
2. Motivation factors, namely employee attitudes in facing work situations that drive them to achieve organizational goals.
3. HR Quality, which reflects employee competence in completing work.
4. Work environment, which supports employee comfort and productivity at work.

2.3 Indicators of Employee Performance

According to Mangkunegara (2017), the indicators of employee performance include:

1. Work quality, namely the conformity of work results with established standards.
2. Work quantity, namely the amount of work that can be completed according to targets.
3. Timeliness, namely the ability to complete work within the specified time limit.
4. Effectiveness, namely the optimal use of work resources.
5. Independence, namely the ability to work without always being supervised.

2.4 Human Resource (HR) Quality

According to Afandi (2018), HR quality is the ability possessed by employees that includes knowledge, skills, and attitudes in carrying out work effectively. According to Kasmir (2019), HR quality is an individual's ability to work effectively and efficiently to achieve organizational goals, reflected in employee competence and professionalism.

2.5 Factors Affecting HR Quality

According to Afandi (2018), the factors that affect HR quality include:

1. Education, which plays a role in improving employees' knowledge and insight.
2. Training, which aims to improve employees' technical and non-technical skills.
3. Work experience, which helps employees deal with various work problems.
4. Motivation, which encourages employees to work better and achieve targets.
5. Work discipline, which reflects compliance with work rules and responsibilities.

2.6 Indicators of HR Quality

According to Afandi (2018), the indicators of HR quality include:

1. Knowledge, namely the level of employee understanding of the work being done.
2. Skills, namely the technical ability to carry out tasks effectively.
3. Attitude, namely work behavior that reflects professionalism and work ethics.
4. Ability, namely the employee's capacity to complete work according to task demands.

2.7 Work Environment

According to Sedarmayanti (2011), the work environment is the entirety of the tools and materials encountered, the surrounding environment in which a person works, their work methods, and their work arrangements, both as individuals and as groups. A good work environment will create comfort for employees in carrying out their duties. According to Sutrisno (2020), the work environment is the entirety of the facilities and infrastructure around employees who are carrying out work that can affect the performance of that work.

2.8 Factors Affecting the Work Environment

According to Sedarmayanti (2011), the factors of the work environment include:

1. Lighting, namely the availability of sufficient light to support work activities.
2. Air temperature, namely the room temperature conditions that are comfortable for employees.
3. Noise, namely the level of sound disturbance in the work environment that can affect concentration.
4. Work relationships, namely the quality of interaction between employees and colleagues or superiors.
5. Work safety, namely the sense of security felt by employees while in the work environment.

2.9 Indicators of the Work Environment

According to Sedarmayanti (2011), the indicators of the work environment include:

1. Lighting, namely the adequacy of light in the workspace.
2. Air temperature, namely the comfort of temperature in the workplace.
3. Work relationships, namely the harmony of relationships between employees and colleagues and superiors.
4. Work facilities, namely the availability of supporting facilities for carrying out duties.
5. Work safety, namely the employee's sense of security while working in the office

Research Methodology

3.1 Type and Approach of Research

The type of research used in this study is quantitative research with an associative approach, namely research that aims to determine the relationship or effect between two or more variables. According to Sugiyono (2018), quantitative research is a research method based on the philosophy of positivism, used to study a particular population or sample with the aim of testing established hypotheses through statistical data analysis.

3.2 Population and Sample

The population in this study consists of all 38 employees at the Bank Indonesia Pematang Siantar Representative Office. The sampling technique used in this study is the saturated sampling (census) technique, namely a sample determination technique that uses all members of the population as the research sample. Thus, the number of samples in this study is equal to the number of the population, namely 38 employees.

3.3 Data Collection Technique

The data collection technique in this study was carried out using a questionnaire distributed to all respondents. The measurement scale used is a 1-5 Likert scale (1 = Strongly Disagree, 5 = Strongly Agree), used to measure respondents' attitudes, opinions, and perceptions of the statements presented in the questionnaire.

3.4 Data Analysis Technique

The data obtained were analyzed using multiple linear regression analysis with the help of statistical software. Before hypothesis testing, an instrument test and classical assumption tests were carried out first, as follows:

3.4.1 Validity Test

The validity test was carried out by calculating the Product Moment correlation between the item score and the total variable score. An item is declared valid if the calculated r value > the table r value. With 38 respondents, the degrees of freedom (df) = n – 2 = 36, so the table r value at a 5% significance level is 0.320.

3.4.2 Reliability Test

The reliability test is used to measure the internal consistency of the research instrument using Cronbach's Alpha coefficient. A variable is declared reliable if the Cronbach's Alpha value is greater than 0.60.

3.4.3 Classical Assumption Test

a. Normality Test, to test whether the residual data is normally distributed, using the Shapiro-Wilk test.
b. Multicollinearity Test, to test whether there is a high correlation between independent variables, seen from the Variance Inflation Factor (VIF) value. The model is declared free of multicollinearity if the VIF value < 10.
c. Heteroscedasticity Test, to test whether there is inequality of residual variance, using the Glejser test. The model is declared free of heteroscedasticity if the significance value > 0.05.

3.4.4 Hypothesis Testing

1. t-test (partial), to test the effect of each independent variable on the dependent variable individually. The hypothesis is accepted if the significance value < 0.05.
2. F-test (simultaneous), to test the effect of the independent variables together on the dependent variable. The hypothesis is accepted if the significance value < 0.05.
3. Coefficient of Determination (R^2), to measure how much the independent variables are able to explain the dependent variable.

Results

4.1 Validity Test

The validity test was carried out by calculating the correlation between the score of each item and the total score of its variable, compared with the table r value of 0.320 (n=38, df=36, α=5%). The validity test results are presented in the following table:

Table 1: Validity Test Results

Variable	Item	r Calculated	r Table	Description
HR Quality (X1)	X1.1	0.812	0.320	Valid
HR Quality (X1)	X1.2	0.808	0.320	Valid
HR Quality (X1)	X1.3	0.875	0.320	Valid
HR Quality (X1)	X1.4	0.906	0.320	Valid
Work Environment (X2)	X2.1	0.833	0.320	Valid
Work Environment (X2)	X2.2	0.742	0.320	Valid
Work Environment (X2)	X2.3	0.849	0.320	Valid
Work Environment (X2)	X2.4	0.785	0.320	Valid
Work Environment (X2)	X2.5	0.716	0.320	Valid

Variable	Item	r Calculated	r Table	Description
Employee Performance (Y)	Y.1	0.695	0.320	Valid
Employee Performance (Y)	Y.2	0.614	0.320	Valid
Employee Performance (Y)	Y.3	0.831	0.320	Valid
Employee Performance (Y)	Y.4	0.745	0.320	Valid
Employee Performance (Y)	Y.5	0.855	0.320	Valid

Source: Primary data processed (2026)

Based on Table 1, all statement items on the variables of HR Quality, Work Environment, and Employee Performance have a calculated r value greater than the table r value (0.320). Thus, all statement items are declared valid and suitable for use as research instruments.

4.2 Reliability Test

The reliability test was carried out by examining the Cronbach's Alpha value of each variable. A variable is declared reliable if the Cronbach's Alpha value > 0.60. The reliability test results are presented in the following table:

Table 2: Reliability Test Results

Variable	Number of Items	Cronbach's Alpha	Description
HR Quality (X1)	4	0.877	Reliable
Work Environment (X2)	5	0.842	Reliable
Employee Performance (Y)	5	0.804	Reliable

Source: Primary data processed (2026)

Based on Table 2, all research variables have a Cronbach's Alpha value above 0.60. Thus, the research instrument is declared reliable and consistent, making it suitable for further data collection.

4.3 Classical Assumption Test

4.3.1 Normality Test

The normality test results using the Shapiro-Wilk test on the residual values show a statistical value of 0.977 with a significance of 0.598 (> 0.05). This indicates that the residual data is normally distributed, so the regression model satisfies the normality assumption.

4.3.2 Multicollinearity Test

	Tolerance	VIF	Description
HR Quality (X1)	0.997	1.003	Free of Multicollinearity
Work Environment (X2)	0.997	1.003	Free of Multicollinearity

Source: Primary data processed (2026

The VIF values for both independent variables are well below 10, indicating that there is no multicollinearity between HR Quality and Work Environment in the regression model.

4.3.4 Heteroscedasticity Test

The Glejser test results show a significance value for the HR Quality variable of 0.275 and for Work Environment of 0.172, both of which are greater than 0.05. Thus, the regression model is declared free of heteroscedasticity symptoms.

4.4 Multiple Linear Regression Analysis

Multiple linear regression analysis was carried out to determine the effect of HR Quality (X1) and Work Environment (X2) on Employee Performance (Y). The data processing results are presented in the following table:

Table 3: Multiple Linear Regression Analysis Results

Variable	Coefficient (B)	t Calculated	Sig.	Description
Constant (a)	6.054	3.020	0.005	-
HR Quality (X1)	0.460	4.253	0.000	Significant
Work Environment (X2)	0.278	2.641	0.012	Significant

Source: Primary data processed (2026)

Based on Table 3, the multiple linear regression equation obtained is as follows:

$$Y = 6.054 + 0.460X1 + 0.278X2 + e$$

1. The constant value of 6.054 indicates that if HR Quality and Work Environment are zero, then Employee Performance is at a value of 6.054.
2. The regression coefficient of HR Quality (X1) of 0.460 is positive, meaning that every one-unit increase in HR Quality will increase Employee Performance by 0.460 units, assuming other variables remain constant.
3. The regression coefficient of Work Environment (X2) of 0.278 is positive, meaning that every one-unit increase in Work Environment will increase Employee Performance by 0.278 units, assuming other variables remain constant.

4.5 Hypothesis Testing

4.5.1 t-Test (Partial)

The table t value at a 5% significance level with df = n – k – 1 = 35 is 2.030.

a. HR Quality (X1) has a calculated t value of 4.253 with a significance of 0.000. Since t calculated (4.253) > t table (2.030) and significance < 0.05, H1 is accepted, meaning that HR Quality has a positive and significant effect on Employee Performance.
b. Work Environment (X2) has a calculated t value of 2.641 with a significance of 0.012. Since t calculated (2.641) > t table (2.030) and significance < 0.05, H2 is accepted, meaning that Work Environment has a positive and significant effect on Employee Performance.

4.5.2 F-Test (Simultaneous)

Table 4: F-Test Results

F Calculated	F Table	Sig.	Description
13.212	3.267	0.000	Significant

Source: Primary data processed (2026)

The table F value at a 5% significance level with df1 = 2 and df2 = 35 is 3.267. Since F calculated (13.212) > F table (3.267) and the significance value (0.000) < 0.05, H3 is accepted, meaning that HR Quality and Work Environment simultaneously have a positive and significant effect on Employee Performance.

4.5.3 Coefficient of Determination (R^2)

Table 5: Coefficient of Determination Results

R	R Square	Adjusted R Square
0.656	0.430	0.398

Source: Primary data processed (2026)

Based on Table 5 , the R Square value of 0.430 indicates that HR Quality and Work Environment together are able to explain 43.0% of the variation in Employee Performance, while the remaining 57.0% is explained by other variables not examined in this study, such as work motivation, compensation, or leadership.

Discussion

The research results show that HR Quality has a positive and significant effect on Employee Performance. This finding is consistent with the views of Afandi (2018) and Kasmir (2019), who state that employees with good knowledge, skills, attitudes, and abilities will produce more optimal performance. The higher the HR quality of an institution, the better the work results that can be achieved by its employees.

Furthermore, Work Environment was also proven to have a positive and significant effect on Employee Performance, although its contribution is relatively smaller than HR Quality. This is consistent with the view of Sedarmayanti (2011), who states that a conducive work environment, both physically and non-physically, will encourage employees to work more comfortably and productively. Simultaneously, both variables make a significant contribution to improving employee performance, although most of the variation in performance is still explained by other factors outside this research model.

Conclusion

Based on the results of the research conducted, the conclusions of this study are as follows:

1. HR Quality (X1) has a positive and significant effect on Employee Performance (Y) at the Bank Indonesia Pematang Siantar Representative Office, with a calculated t value of 4.253 > table t value of 2.030 and significance of 0.000 < 0.05, so H1 is accepted.
2. Work Environment (X2) has a positive and significant effect on Employee Performance (Y) at the Bank Indonesia Pematang Siantar Representative Office, with a calculated t value of 2.641 > table t value of 2.030 and significance of 0.012 < 0.05, so H2 is accepted.
3. HR Quality (X1) and Work Environment (X2) simultaneously have a positive and significant effect on Employee Performance (Y), with a calculated F value of 13.212 > table F value of 3.267 and significance of 0.000 < 0.05, so H3 is accepted.
4. The coefficient of determination (R Square) value of 0.430 indicates that HR Quality and Work Environment are able to explain 43.0% of the variation in Employee Performance, while the remaining 57.0% is influenced by other variables outside this study.

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