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## **The Influence of Human Resource Quality, Information Technology Utilization, and Work Environment on Employee Performance at the Education Office of Mojokerto Regency**

**Alfiyah Rahmadani<sup>1</sup>, Moh. Heru Budi Santoso<sup>2</sup>**

<sup>1,2</sup> Department of Management, Universitas Islam Lamongan, Lamongan, Indonesia

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#### ***Corresponding Author:***

Alfiyah Rahmadani,  
Department Of Management,  
Islamic University Of  
Lamongan, Lamongan,  
Indonesia.

Email:

alfiyahrahmadani031@gmail.com

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### **ABSTRACT**

This study investigated the influence of human resource quality, the utilization of information technology, and the work environment on employee performance at the Education Office of Mojokerto Regency. A quantitative research design was employed, targeting the entire employee population through a saturated sampling technique, resulting in 83 respondents. Data were collected using structured questionnaires and analyzed through multiple linear regression. The findings revealed that human resource quality, information technology utilization, and the work environment collectively had a significant and positive affect on employee performance. Partially, human resource quality and information technology utilization showed a significant effect, while the work environment variable did not demonstrate a statistically significant impact on performance.

**Keywords:** HR Quality, IT Utilization, Work Environment, Employee Performance

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## **1. INTRODUCTION**

In the context of organizational performance, employees play a pivotal role in achieving institutional objectives. The quality of human resources is one of the key elements that influences performance outcomes. According to Nurhanan (2020), the quality of human resources refers to an employee's ability to fulfill their job responsibilities, which is supported by adequate education, training and experience. This suggests that improving the competence and preparedness of personnel is essential to ensure that organizational goals are met effectively.

Another, in the digital era, the effective use of information technology has become indispensable in supporting daily tasks and increasing work efficiency. Organizations that are able to integrate technology into their operations are better positioned to enhance employee output and streamline administrative processes.

Although prior studies have examined these variables, findings have often been inconsistent, especially in public sector institutions. This creates the need for additional inquiry to clarify their combined influence on performance in a government setting.

This study aims to examine how competence level of personnel, employment of technological tools, and the physical and social work atmosphere affect staff performance at the Education Office of Mojokerto Regency. Accordingly, the study seeks to answer the following questions: (1) To what extent does competence level of personnel effect staff performance? (2) How does the application of digital tools influence performance outcomes? (3) What is the impact of the physical and social work atmosphere on staff performance? (4) Do these three variables collectively have a significant effect on staff performance?

By addressing these questions, the study seeks to provide empirical insight that contributes to performance improvement strategies within local government agencies.

## **2. LITERATURE REVIEW**

In examining staff performance, it is essential to explore the theoretical foundation of the variables studied. This section outlines the literature related to competence level of personnel, employment of technological tools, physical and social work atmosphere, and staff performance, incorporating both conceptual definitions and operational indicators.

Human resource quality plays a central role in determining employee effectiveness. Nurhanan (2020) states that an employee's ability to fulfill their responsibilities is shaped by adequate education, training, and professional experience. Winedar (2019) further specifies 5 indicators that reflect this construct: (a) relevant job skill, (b) adequate knowledge, (c) high tolerance, (d) strong work enthusiasm, and (e) honesty. These dimensions are critical in building competent, adaptable and ethical personnel.

The integration of information technology has become a key approach in improving institutional effectiveness. Dewi and Sudiana (2020) argue that IT usage facilitates better interaction with the public and supports faster processes in completing tasks. In this study, the indicators of employment of technological tools are adopted from Thompson et al. (as cited in Annasai & Galuh, 2022) identify the following indicators for IT utilization: (a) intensity of use, (b) frequency of use, and (c) the number of applications or systems utilized. These dimensions help evaluate how deeply technology is embedded in employees' daily work activities

The physical and social work atmosphere encompasses physical and psychological aspects that influence employee behavior and outcomes. Kasmir (in Apriana Usman, 2023) states that comfort and tranquility in the workplace promote focus and better work outcomes. These environmental conditions help reduce stress and enable employees to perform tasks more effectively. In this study, indicators of the physical and social work atmosphere are based on Armansyah (2024) outlines key indicators such as: (a) air (temperature and humidity), (b) color, (c) lighting, (d) sound.

Employee performance refers to the outcomes achieved based on an individual's competence, experience, and commitment (Almaududi et al., 2021). This concept emphasizes both the personal capabilities of the employee and the consistency of their contributions over time. To measure performance in this study, indicators proposed by Marsudi (Armansyah, 2024) are applied, which include: (a) work quality, (b) work quantity, (c) responsibility, and (d) teamwork. These dimensions reflect both individual efficiency and collaborative effectiveness in the workplace.

Although these variables have been widely examined in previous research, studies that evaluate their simultaneous impact especially within public sector institutions are still limited. This study seeks to fill that gap by investigating the joint influence of human

resource quality, employment of technological tools, and physical and social work atmosphere on staff performance at the Education Office of Mojokerto Regency.

### 3. RESEARCH METHOD

This study employed a structured numerical approach with an associative method to examine the relationship between the independent variables' competence level of personnel, employment of technological tools, and physical and social work atmosphere and the dependent variable, namely staff performance. According to Ahyar et al. (2020), the quantitative approach is characterized by the use of numerical data in the processes of data collection, analysis and presentation in a systematic and objective manner. The research was conducted at the Education Office of Mojokerto Regency.

The population in this study consisted of all employees working at the Education Office of Mojokerto Regency. The sampling technique used was saturated sampling, in which all members of the population were selected as respondents. A total of 83 employees participated in this study.

Data were collected through a structured questionnaire containing closed ended statements measured using a Likert scale. The theoretical indicators for each variable as described in the literature review.

Prior to data collection, the instrument was tested for validity and reliability to ensure the accuracy and consistency of the results. The validity test was conducted using Pearson's correlation coefficient, while the reliability of the instrument was assessed using Cronbach's Alpha.

The data analysis technique used in this study was a multivariate linear regression model analysis, processed using SPSS. The hypothesis testing procedure includes the coefficient of determination ( $R^2$ ), partial test (t-test), and simultaneous test (F-test). Classical assumption tests were also conducted, including normality, multicollinearity, and heteroscedasticity tests, to ensure the accuracy of the regression model.

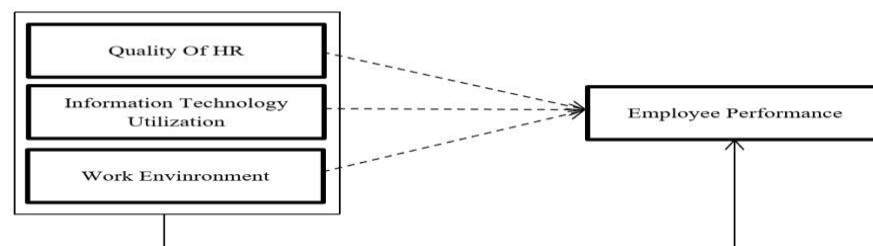


Figure 1. Analysis Model

### 4. RESULTS AND ANALYSIS

This study examined the influence of competence level of personnel, employment of technological tools, and physical and social work atmosphere of staff performance at the Education Office of Mojokerto Regency. The data were analyzed using a multivariate linear regression model, preceded by instrument validity and reliability tests, as well as classical assumption testing.

#### a. Validity Test and Reliability Test

The validity test was conducted using Pearson's correlation. All the scores showed correlation coefficients above the critical value (r-table) 0,213, with significance values above below 0,05, indicating that each statement item was valid. The reliability test using Cronbach's Alpha revealed that all variables had value greater than 0,60, confirming the reliability of the instrument.

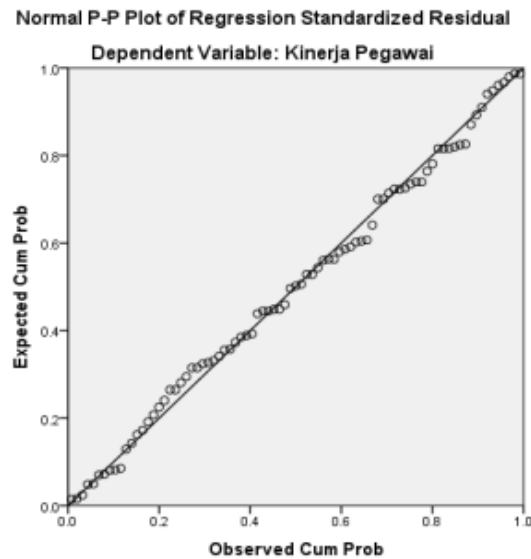
**Table 1. Reliability Test Result**

| Variables                                      | Alpha | Status   |
|------------------------------------------------|-------|----------|
| <i>Human Resource Quality (X1)</i>             | 0.951 | Reliable |
| <i>Information Technology Utilization (X2)</i> | 0.900 | Reliable |
| <i>Work Environment (X3)</i>                   | 0.916 | Reliable |
| Employee Performance (Y)                       | 0.914 | Reliable |

*Source : SPSS Output Result*

## **b. Classical Assumption Test**

### **Normality test**

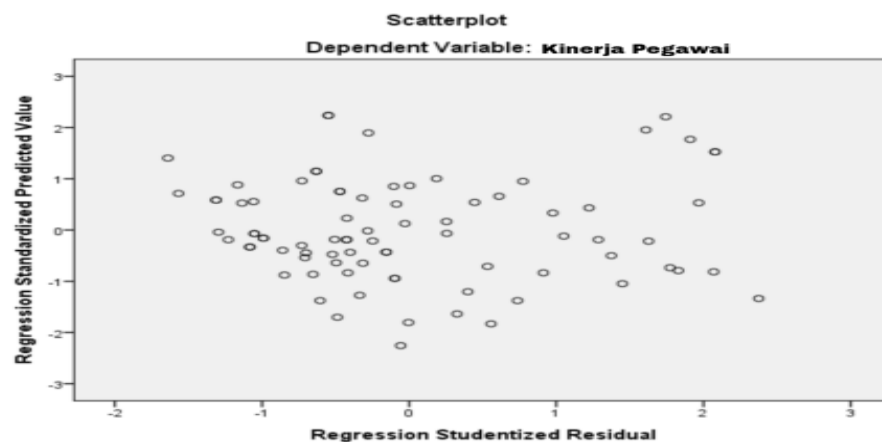


*Source : SPSS Statistical Output*

**Figure 2. PP Plot Normal Graph**

The results of the normal probability plot (P-P plot) indicate that the standardized residuals are normally distributed, as the data points closely follow the diagonal line. This confirms that the assumption of normality has been met.

### **Heteroscedasticity test**



*Source : SPSS Statistical Output*

**Figure 3. Heteroscedasticity test**

The residual scatterplot shows a random distribution of data points without a clear pattern, confirming that the assumption of homoscedasticity is satisfied.

#### Autocorrelation Test

Autocorrelation test using the Durbin-Watson statistic was 2.109. With  $N = 83$  and  $k = 3$ , the critical values are  $DL = 1.5693$  and  $DU = 1.7187$ . Since  $1.7187 < 2.109 < 2.2813$  ( $4 - DU$ ), indicating no autocorrelation among residuals.

#### Multicollinearity Test

**Table 2. Multicollinearity Test Results**

| Variables                                      | Tolerance | VIF   |
|------------------------------------------------|-----------|-------|
| <i>Human Resource Quality (X1)</i>             | 0.553     | 1.808 |
| <i>Information Technology Utilization (X2)</i> | 0.473     | 2,113 |
| <i>Work Environment (X3)</i>                   | 0.439     | 2,279 |

Source : SPSS Statistical Output

Showed no violations, as all tolerance values exceeded 0,10 and VIF values were below 10.

#### c. Test Of Determination Coefficient ( $R^2$ )

**Table 3. Result Of Test Of Determination Coefficient ( $R^2$ )**

| Model                  | R     | R Square | Adjust R Square | Std. Error of the Estimate |
|------------------------|-------|----------|-----------------|----------------------------|
| Regression (X1, X2,X3) | 0,861 | 0,741    | 0,732           | 2,013                      |

Source : SPSS Statistical Output

As shown in table 3, the adjusted R square value is 0,732, which indicates that 73,2% of the variation in staff performance can be explained by the three independent variables: competence level of personnel, employment of technological tools, and physical and social work atmosphere. This high adjusted coefficient demonstrates that the model has strong explanatory power even after accounting for the number of predictors. The remaining 26,8% is attributed to other variables not included in the model.

#### d. Multiple Linear Regression Test

**Table 4. Multiple Linear Regression Test Result**

| Variable         | Unstandarized Coefficients |            | t.value | Sig.  | Interpretation  |
|------------------|----------------------------|------------|---------|-------|-----------------|
|                  | B                          | Std. Error |         |       |                 |
| Constant         | 3,324                      | 1,983      | 1,677   | 0,098 |                 |
| HR Quality       | 0,355                      | 0,059      | 6,011   | 0,000 | Significant     |
| IT Utilization   | 0,346                      | 0,072      | 4,781   | 0,000 | Significant     |
| Work Environment | 0,012                      | 0,074      | 1,381   | 0,171 | Not significant |

Source : SPSS Statistical Output

The a multivariate linear regression model equation obtained in this study is:

$$Y = 3.324 + 0.355X_1 + 0.463X_2 + 0.113X_3 + e$$

Table 4 presents the result of the a multivariate linear regression model analysis. The variable of competence level of personnel (X1) has a regression coefficient of 0,355 and a t-value of 6,011, with a significance value of 0,000, indicating a positive and significant effect on staff performance.

Likewise, employment of technological tools (X2) shows a coefficient of 0,346 and a t-value of 4,781, also with a significance level of 0,000, confirming its significant influence.

Meanwhile, the physical and social work atmosphere (X3) variable has a coefficient of 0,102 and a t-value of 1,381, with a significance value of 0,171. Since the p-value exceeds 0,05, this variable is considered to have no significant individual effect on performance in this model.

#### e. Statistical Test (T)

**Table 5. T-Test Result (Partial)**

| Variable         | Unstandardized Coefficients |            | t.value | Sig.  | Interpretation  |
|------------------|-----------------------------|------------|---------|-------|-----------------|
|                  | B                           | Std. Error |         |       |                 |
| Constant         | 3,324                       | 1,983      | 1,677   | 0,098 |                 |
| HR Quality       | 0,355                       | 0,059      | 6,011   | 0,000 | Significant     |
| IT Utilization   | 0,346                       | 0,072      | 4,781   | 0,000 | Significant     |
| Work Environment | 0,012                       | 0,074      | 1,381   | 0,171 | Not significant |

*Source : SPSS Statistical Output*

The partial hypothesis testing was carried out using the t-test to assess the individual influence of each independent variable on staff performance.

The result indicates that competence level of personnel has a significant positive effect, with a t-value of 6,011 and a significance level 0,000. This suggests that employees with better qualifications, experience and discipline tend to perform more effectively.

Likewise, employment of technological tools shows a t-value of 4,781 and a significance value of 0,000, confirming that the effective use of digital tools and systems enhances employee productivity.

On the other hand, the physical and social work atmosphere variable has a t-value of 1,381 and a significance level of 0,171, indicating that it does not have a statistically important partial effect on performance in this study.

These findings highlight that improvements in human capital and technological adoption are more influential drivers of performance compared to environmental conditions when evaluated independently.

#### f. Statistical Test (F)

**Table 5. F-Test Result (Simultan)**

| Source     | Sum of Squares | df | Mean Square | F      | Sig.  |
|------------|----------------|----|-------------|--------|-------|
| Regression | 917,194        | 3  | 305,731     | 75,486 | 0,000 |
| Residual   | 319,963        | 79 | 4.050       |        |       |
| Total      | 1237,157       | 82 |             |        |       |

*Source : SPSS Statistical Output*

The F-test was conducted to examine the simultaneous effect of the three independent variables competence level of personnel, employment of technological tools, and physical and social work atmosphere on staff performance.

The analysis produced an F-value of 75,486 with a significance level of 0,000. Since the p-value is below the threshold of 0,05, it can be concluded that the regression model is statistically important. This means that the three variables, when considered together, have a significant joint influence on the performance of employees at the Education Office of Mojokerto Regency.

In summary, the results of this study provide clear answers to the proposed research questions. First, the competence level of personnel significantly influences staff performance, indicating that well qualified and competent personnel; contribute positively to organizational outcomes. Second, the application of digital tools also has a significant positive effect, suggesting that digital tools and systems enhance productivity and efficiency. Third, although the physical and social work atmosphere was found to have a positive direction, its partial effect on performance was not statistically important. Lastly, when examined collectively, all three variables competence level of personnel, employment of technological tools and physical and social work atmosphere have a significant simultaneous influence on staff performance.

## 5. CONCLUSION

The study aimed to investigate the influence of competence level of personnel, employment of technological tools, and physical and social work atmosphere on staff performance at the Education Office of Mojokerto Regency. The findings indicated that competence level of personnel and the use of information technology have a significant positive impact on staff performance when tested individually. Meanwhile, the physical and social work atmosphere variable did not show a statistically important partial effect. However, all three variables, when tested simultaneously, significantly affect performance. These findings highlight the importance of strengthening human capital and optimizing digital systems in improving public sector employee outcomes.

Based on the findings, it is recommended that the Education Office focus on continuous development of employee competencies through training and skill enhancement programs. Moreover, the use of information technology should be further improved to support faster, more accurate, and efficient public service. Although the physical and social work atmosphere did not show a significant individual effect, maintaining a supportive and comfortable workplace remains essential for overall employee well-being. Future studies are encouraged to explore additional variables or use different analytical methods to gain deeper insight and validate the robustness of these findings.

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