e-ISSN: 3062-7109
Proceeding International Conference on Learning Community (ICLC)
Volume 1 No 1, 2024
https://jurnal.untirta.ac.id/index.php/iclc/index

How Work Environment, Job Characteristics, and Motivation Predict Employee Performance: A Study in Muaro Jambi Regency, Indonesia

Muhamad Hamdi, Akmal Sutja, Rully Andi Yaksa, Affan Yusra

Department of Education, Faculty of Teacher Training and Education, Jambi-Indonesia

email correspondence: hamdiblog86@unja.ac.id

ABSTRACT

This study investigates the factors influencing employee performance in Muaro Jambi Regency, Indonesia, aiming to enhance understanding and contribute to human resource management by testing a conceptual model integrating work environment, job characteristics, and work motivation. Employing an associative quantitative approach, the research uses survey methods, regression analysis, and path analysis, with a census sampling of 83 employees. The instrument, comprising 51 items, was validated by three experts and tested for validity and reliability. Assumption tests included normality, heteroscedasticity, and multicollinearity, followed by hypothesis testing. Key findings indicate that the work environment significantly influences work motivation with a coefficient of determination of 61.6%. Job characteristics also have a substantial impact on work motivation at 45.5%. Work motivation strongly affects performance achievement at 50.9%. The work environment directly influences performance achievement by 20.8%, with an indirect effect through motivation at 18.7%. Job characteristics directly impact performance achievement by 22.2% and have an indirect effect through motivation at 23.2%. Combined, the work environment, job characteristics, and work motivation explain 75.3% of the variance in performance achievement. Sobel test results confirm that work motivation mediates the effects of the work environment and job characteristics on performance achievement. The study concludes that integrating these three factors significantly enhances employee performance, providing valuable insights for human resource management practices.

Keywords: ***Work Environment; Job Characteristics; Work Motivation; Employee Performance***

INTRODUCTION

In public administration, human resources (HR) are essential to carrying out government organizations' vision, mission, and goals (Pinto, 2023; Stempel, 2023). High-performing (Miao, 2019) and motivated staff members are necessary to meet these objectives (Cangialosi, 2023). Accordingly, creating a welcoming and secure work atmosphere for staff members is crucial to encouraging high levels of job excitement (Kennedy, 2023; Shafagatova, 2023). Employees who are performing their responsibilities are immediately impacted by the work environment (Melnick, 2023). Employee performance and enthusiasm can be adversely affected by an unsuitable work environment, which might make them uncomfortable carrying out their responsibilities (Haar, 2022; Ulrich, 2022).

Likewise, job attributes have the potential to greatly impact workers' motivation for their work and their capacity for efficient performance (Reilly et al., 2023; Sutja et al., 2024). Performance can be improved by job qualities that correspond with individual tendencies (Hamdi, 2016, 2022; Santoro, 2021; Song, 2019). They ascertain whether a person is a good fit for a particular employment function, which helps them advance in their chosen sector (Ciobanu, 2019; Rasimin & Hamdi, 2021; Sarwar, 2020). An employee's performance is likely to improve if their job characteristics match their function (Hamdi et al., 2022a, 2022b; Ogbonnaya, 2019; Park, 2019).

Apart from the job features and work environment, work motivation plays a crucial role in improving employee performance (Santiago-Torner, 2023). Employee performance is impacted by work motivation (Xu, 2022; Zeng, 2022). Employees may be motivated to accomplish corporate goals by both inner and external factors (Rasimin & Hamdi, 2021; Vuong, 2023). Employee motivation propels them to complete their work, improving the business and helping them reach goals that fulfill their own interests (Hamdi et al., 2022a; Liao, 2022). Extrinsic elements including pay, job security, working conditions, standing within the company, policies and procedures, and connections with coworkers, subordinates, and superiors can all be sources of organizational motivation (Hauwaert, 2022; Saleh, 2022). Achievement, acknowledgment, accountability, professional growth, the work itself, and prospects for advancement are examples of intrinsic factors (Autin, 2022; Fernando et al., 2023; Hamdi, M., Sultoni, S., & Sukma, 2022).

One of the Regional Work Units (OPD) of the Muaro Jambi Regency Government in charge of overseeing educational matters is the Education and Culture Office of Muaro Jambi (Disdikbud.muaroJambi, 2023). Achieving optimal performance requires human resources that are both skilled and dependable. Disdikbud is dedicated to achieving performance results with a "excellent" grade as specified in the OPD Strategic Plan (RENSTRA) as part of the government's attention on educational affairs (Disdikbud.muaroJambi, 2023). In this regard, the organization's vision and goal can only be successfully realized with the support of human resource development (Hamdi, 2014; Matschke, 2023; Peny-Dahlstrand, 2023).

Numerous studies have investigated employee performance (Eliyana, 2019; Hameed, 2020), primarily addressing misconceptions and various implementations of human resource management (HRM) practices. For example, Green Human Resource Management (GHRM) has been shown to affect employees' pro-environmental behavior (Kim et al., 2019), and the relationship between transformational leadership and employee performance has been explored (Buil et al., 2019). Additionally, the acquisition of knowledge and effective HRM practices are essential for enhancing corporate innovation performance (Papa et al., 2020). However, within the context of the Education Office of Muaro Jambi, no study has specifically examined the interactions between the work environment, job characteristics, and work motivation in relation to employee performance. This gap highlights the need for a comprehensive and contextual study to understand the factors influencing employee performance in this particular organizational setting.

This research aims to address the following questions: (1) Does the work environment at Disdikbud Muaro Jambi directly impact work motivation and employee performance? (2) Do job characteristics directly influence work motivation and employee performance at Disdikbud Muaro Jambi? (3) Is there a direct effect of work motivation on employee performance at Disdikbud Muaro Jambi? (4) Does the work environment indirectly affect performance by first directly influencing work motivation at Disdikbud Muaro Jambi? (5) Do job characteristics indirectly affect performance by first directly influencing work motivation at Disdikbud Muaro Jambi?

This research is essential as it provides insights into the factors influencing employee performance. By understanding the effects of the work environment, job characteristics, and work motivation on employee performance, it can pinpoint areas for improvement to enhance productivity and efficiency. Moreover, this research offers significant theoretical contributions by deepening the understanding of factors affecting employee performance within the context of regional government organizations.

RESEARCH METHODS

This study utilizes an associative quantitative approach with a survey method to uncover correlations between the variables under investigation (Heppner et al., 2007). This approach was selected as it enables adequate statistical analysis of the collected data (Moleong, 1989), allowing for

the identification and measurement of the strength of relationships between variables. The independent variables are the work environment (X1) and job characteristics (X2), the mediating variable is work motivation (Z), and the dependent variable is performance outcomes (Y). Data is collected via surveys from all employees of the Education and Culture Office of Muaro Jambi.

The research is conducted from January 2024 to June 2024 at the Education and Culture Office of Muaro Jambi, using a population sampling technique (census) where the entire population of 83 employees serves as the sample (Creswell, 2014). Questionnaires are administered directly and via Google Forms to gather information according to the studied variables (Creswell, 2014). The questionnaire, comprising 51 items, includes sections on the work environment (12 items), job characteristics (14 items), work motivation (11 items), and performance outcomes (14 items). These instruments have undergone expert judgment by three experts and have been tested for validity and reliability.

Assumption tests include normality, heteroscedasticity, and multicollinearity, followed by hypothesis testing, regression analysis, and path analysis. The effect size of the relationships between variables X and Y, or the coefficient of determination (R^2), is interpreted using the criteria set by Cohen et al. (2000).

Respondent Demographics

Table 1. Demographic Data Distribution of 83 Respondents Involved in the Study

Category	Sub-Category	Frequency	Percentage (%)	Valid Percentage (%)	Cumulative Percentage (%)
Age	18 - 30 th	25	30.1	30.1	30.1
	31 - 45 th	37	44.6	44.6	74.7
	46 - 55 th	19	22.9	22.9	97.6
	56 - 60 th	2	2.4	2.4	100.0
Gender	Male	46	55.4	55.4	55.4
	Female	37	44.6	44.6	100.0
Employee Status	Honorary	41	49.4	49.4	49.4
	Civil Servant	42	50.6	50.6	100.0
Last Education	Associate Degree	3	3.6	3.6	3.6
	High School Diploma	1	1.2	1.2	4.8
	Package B	1	1.2	1.2	6.0
	Package C	3	3.6	3.6	9.6
	Bachelor's Degree	56	67.5	67.5	77.1
	Master's Degree	4	4.8	4.8	81.9
	Secondary School	4	4.8	4.8	86.7
	High School	8	9.6	9.6	96.4
	Vocational High School	3	3.6	3.6	100.0

Table 2. Criteria for Interpreting Effect Size

Determination Value (%)	Interpretation
.0 – .10	Poor
.11 – 0.30	Modest
.31 – 0.50	Moderate
>.51	Strong

Table 3. Criteria for Interpreting Partial Effect Size

Determination Value	Interpretation
0,00 – 0,04	Low or very weak
0,05 – 0,16	Low but definite
0,17 – 0,49	Fairly strong
0,50 – 0,81	High or strong
0,82 – 1,00	Very high or very strong

RESULTS AND DISCUSSION

Result

Descriptive statistics are applied to assess data by describing the information collected without attempting to draw broad or general conclusions (Sugiyono, 2018:147). Descriptive statistics provide a summary of the data based on measures such as the mean, standard deviation, maximum, and minimum

Table 4. Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Work Environment	83	23	46	41.27	3.616
Job Characteristics	83	28	53	48.30	4.204
Work Motivation	83	21	43	38.13	3.655
Performance Achievement	83	25	54	48.28	4.538
Valid N (listwise)	83				

1. The descriptive test results, based on a sample of 83 participants, reveal that Work Environment scores range from a minimum of 23 to a maximum of 46. The mean score is 41.27, with a standard deviation of 3.62. Since the standard deviation is lower than the mean, this suggests that the Work Environment data is relatively uniformly distributed.
2. The descriptive test results for a sample of 83 participants reveal that Job Characteristics scores range from a minimum of 28 to a maximum of 53, with an average score of 48.30 and a standard deviation of 4.20. Since the standard deviation is less than the mean, this suggests that the Job Characteristics data are relatively evenly distributed.
3. The descriptive test results for a sample of 83 participants indicate that Work Motivation scores range from a minimum of 21 to a maximum of 43, with an average of 38.13 and a standard deviation of 3.66. The fact that the standard deviation is lower than the mean suggests that the distribution of Work Motivation scores is fairly consistent.
4. The descriptive test results for a sample of 83 participants show that Performance Achievement scores range from a minimum of 25 to a maximum of 54, with an average of 48.28 and a standard deviation of 4.34. Since the standard deviation is smaller than the mean, this suggests that the Performance Achievement data are distributed fairly consistently.

Instrument Testing

The validity test in this study was performed with 83 respondents, using a significance level (α) of 5% or 0.05. The degrees of freedom (Df) were calculated as N-2 = 83 – 2 = 81, which gives a table value (r-table) of 0.216. Data are considered valid if the computed r value exceeds the r-table value and the significance level is below 0.05. Pearson's product-moment correlation formula, applied using IBM SPSS 22 Statistics, was used for the test. The results show that all items are valid, as their coefficients are higher than 0.216. Based on the calculation using Cronbach's Alpha with SPSS 22, all statement variables have reliability values categorized as acceptable, as they exceed the Cronbach's Alpha threshold of 0.6.

Classical Assumption Tests
Normality Test

The normality of the data was assessed using the Kolmogorov-Smirnov Test of Normality in SPSS. As per Ghozali (2016), decisions are based on the probability (asymptotic significance). The test results indicate a Sig. (2-tailed) value of 0.200, which is greater than 0.05, confirming that the data follows a normal distribution.

Heteroscedasticity Test
Scatterplot Heteroscedasticity Test

As Ghozali (2018) explains, the heteroscedasticity test aims to determine whether the variance of residuals is constant across observations in a regression model. To detect heteroscedasticity, SPSS graphics are utilized. The criterion for decision-making is based on the scatterplot: heteroscedasticity is not present if there is no discernible pattern and the points are randomly dispersed above and below the 0 value on the Y-axis.

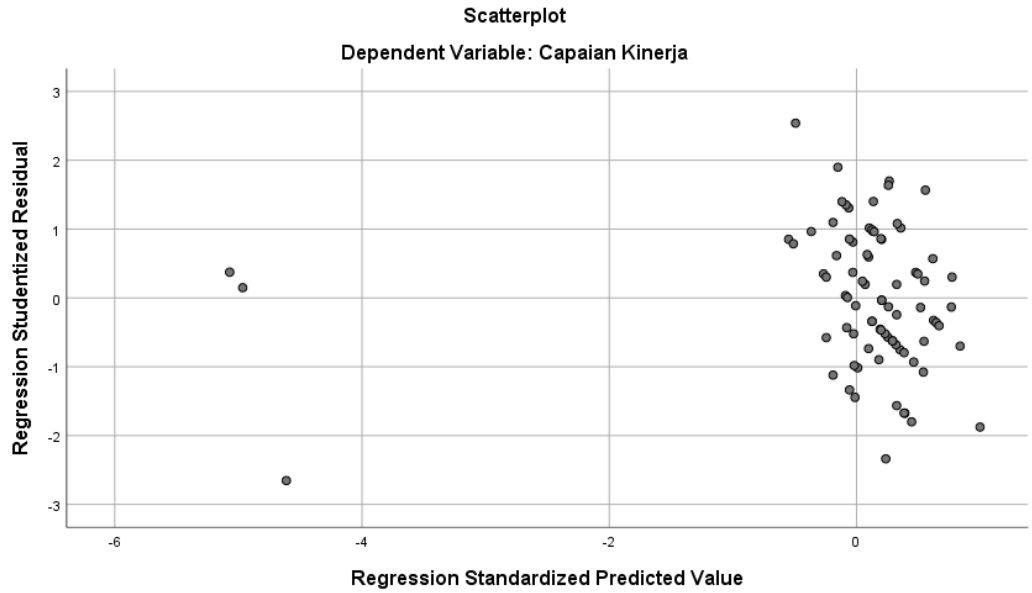

Figure 1. SPSS Output for Heteroscedasticity Test

Based on the scatterplot output, the data points are spread out and do not form a clear pattern. Therefore, it can be concluded that there is no issue of heteroscedasticity.

Glejser Heteroscedasticity Test

The heteroscedasticity test is a statistical technique used to determine if there are significant variations in dispersion between groups or sub-samples within a dataset. Heteroscedasticity arises when the variance of data is not consistent across its range. If the significance value (Sig.) exceeds 0.05, it suggests that heteroscedasticity is not present in the regression model. Conversely, a significance value (Sig.) below 0.05 indicates the presence of heteroscedasticity. According to the SPSS output, all significance (Sig.) values are above 0.05, confirming that there is no heteroscedasticity in the regression model.

Multicollinearity Test

The multicollinearity test is a statistical method used to identify high linear dependence between two or more independent variables in a regression model. Multicollinearity occurs when independent variables are strongly correlated, potentially affecting the interpretation and reliability of the regression results. A Variance Inflation Factor (VIF) value less than 10.00 indicates no multicollinearity, while a VIF value greater than 10.00 suggests the presence of multicollinearity. According to the output, all VIF values are below 10.00, and the tolerance values are near 1, indicating that there is no multicollinearity in the regression model.

Multiple Linear Regression Test

Table 5. Multiple Linear Regression Test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.652	3.055		1.196	.235
	Work Environment (X_1)	.372	.121	.368	3.086	.003
	Job Characteristics (X_2)	.396	.104	.455	3.811	.000
A. Dependent Variable: Work Motivation (Y)						
2	(Constant)	1.858	3.086		.602	.549
	Work Environment (X_1)	.261	.128	.208	2.041	.045
	Job Characteristics (X_2)	.239	.113	.222	2.117	.037
	Work Motivation (Z)	.632	.112	.509	5.643	.000
a. Dependent Variable: Performance Achievement (Y)						

To determine the multiple regression equation of the influence of work environment and job characteristics on work motivation, the regression coefficients are analyzed as follows:

Model 1
Y = a + b1x1 + b2x2
Y = 3.652 + 0.372 X1 + 0.396 X2

Where:
X_1 = Work Environment
X_2 = Job Characteristics
Y = Work Motivation

From the above regression equation, it can be interpreted as follows:
1. a = 3.652 indicates that if X_1 and X_2 remain constant (do not change), the constant value of Y is 3.652.
2. b1 = 0.372 indicates that if X_1 increases, Y will increase by 0.372, assuming no change in X_2.
3. b2 = 0.396 indicates that if X_2 increases, Y will increase by 0.396, assuming no change in X_1.

Model 2

$Y = a + b1x1 + b2x2 + b3Z$
$Y = 1.858 + 0.261\ X_1 + 0.239\ X_2 + 0.632\ Z$

Where:
X_1 = Work Environment
X_2 = Job Characteristics
Z = Work Motivation
Y = Performance Achievement

From the above regression equation, it can be interpreted as follows:
1. a = 1.858 indicates that if X_1, X_2, and Z remain constant (do not change), the constant value of Y is 1.858.
2. b1 = 0.261 indicates that if X_1 increases, Y will increase by 0.261, assuming no change in X_2 and Z.
3. b2 = 0.239 indicates that if X_2 increases, Y will increase by 0.239, assuming no change in X_1 and Z.
4. b3 = 0.632 indicates that if Z increases, Y will increase by 0.632, assuming no change in X_1 and X_2.

Hypothesis Testing
Partial t-Test

The partial t-test is a statistical method used to assess whether a particular independent variable significantly impacts the dependent variable in a multiple linear regression model, while accounting for the influence of other independent variables. This test enables us to evaluate the unique contribution of individual independent variables to the dependent variable, controlling for the effects of the other independent variables.

Table 6. Partial t-Test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.652	3.055		1.196	.235
	Work Environment (X_1)	.372	.121	.368	3.086	.003
	Job Characteristics (X_2)	.396	.104	.455	3.811	.000
A. Dependent Variable: Work Motivation (Y)						
2	(Constant)	1.858	3.086		.602	.549
	Work Environment (X_1)	.261	.128	.208	2.041	.045
	Job Characteristics (X_2)	.239	.113	.222	2.117	.037
	Work Motivation (Z)	.632	.112	.509	5.643	.000
a. Dependent Variable: Performance Achievement (Y)						

Based on the results from Model 1 of the Partial t-Test, the t-value for Work Environment (X1) is 3.086. To find the t-table value, we use $\alpha/2 = 0.05 = 0.025$ with degrees of freedom N-k-1, which is 83 – 2 – 1 = 80, giving a t-table value of 1.990. Since the t-value is greater than the t-table value (3.086 > 1.990) and the significance value (Sig.) is 0.003 < 0.05, this indicates a significant effect of Work Environment on Work Motivation. For Job Characteristics (X2), the t-value is 3.811. Using the same t-table value (1.990), the t-value exceeds the t-table value (3.811 > 1.990) and the significance value (Sig.) is 0.000 < 0.05, indicating a significant effect of Job Characteristics on Work Motivation.

In Model 2, the t-value for Work Environment (X1) is 2.041. With degrees of freedom N-k-1 of 83 – 3 – 1 = 79, the t-table value remains 1.990. Since the t-value is greater than the t-table value (2.041 > 1.990) and the significance value (Sig.) is 0.045 < 0.05, this suggests a significant effect of Work Environment on Performance Achievement. For Job Characteristics (X2) in Model 2, the t-value is 2.117. With degrees of freedom N-k-1 of 83 – 3 – 1 = 79, the t-table value is 1.990. Since the t-value exceeds the t-table value (2.117 > 1.990) and the significance value (Sig.) is 0.037 < 0.05, it

indicates a significant effect of Job Characteristics on Performance Achievement. For Work Motivation (Z) in Model 2, the t-value is 5.643. With degrees of freedom N-k-1 of 83 – 3 – 1 = 79, the t-table value is 1.990. Since the t-value is much greater than the t-table value (5.643 > 1.990) and the significance value (Sig.) is 0.000 < 0.05, this indicates a significant effect of Work Motivation on Performance Achievement.

Simultaneous F-Test

The simultaneous F-test is a statistical method used to jointly examine whether a group of independent variables significantly affects the dependent variable in a multiple linear regression model. This test aims to assess the null hypothesis that all regression coefficients of the independent variables are zero simultaneously.

Table 7. Simultaneous F-Test

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	674.918	2	337.459	64.183	.000[b]
	Residual	420.624	80	5.258		
	Total	1095.542	82			
a. Dependent Variable: Work Motivation						
b. Predictors: (Constant), Job Characteristics, Work Environment						
2	Regression	1272.055	3	424.018	80.412	.000[b]
	Residual	416.571	79	5.273		
	Total	1688.627	82			
a. Dependent Variable: Performance Achievement						
b. Predictors: (Constant), Work Motivation, Work Environment, Job Characteristics						

For Model 1, the calculated F-value is 64.183. To determine the F-table value, we use α = 0.05 with degrees of freedom N-k, which is 83 - 2 = 81, resulting in an F-table value of 3.11. Since the F-value exceeds the F-table value (64.183 > 3.11) and the significance value is 0.000 < 0.05, this indicates a significant effect of Work Environment and Job Characteristics on Work Motivation. In Model 2, the F-value is 80.412. With degrees of freedom N-k of 83 - 3 = 80, the F-table value is 2.72. Since the F-value is greater than the F-table value (80.412 > 2.72) and the significance value is 0.000 < 0.05, this suggests a significant effect of Work Environment, Job Characteristics, and Work Motivation on Performance Achievement.

Correlation Test
Correlation Coefficient Test

For the next analysis, inferential tests of relationships between variables were conducted. To calculate the strength of the relationship between variables, SPSS version 22 for Windows was used with the Pearson product-moment correlation as follows:

Table 8. Correlation Coefficient Test

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.785[a]	.616	.606	2.293
a. Predictors: (Constant), Job Characteristics, Work Environment				

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.868[a]	.753	.744	2.296
a. Predictors: (Constant), Work Motivation, Work Environment, Job Characteristics				

In Model 1, the correlation coefficient (R) between Work Environment (X1), Job Characteristics (X2), and Work Motivation (Z) is 0.785, indicating a strong positive correlation among these variables. In Model 2, the correlation coefficient (R) between Work Environment (X1), Job Characteristics (X2), Work Motivation (Z), and Performance Achievement (Y) is 0.868, reflecting a very strong positive correlation among these variables.

Coefficient of Determination Test

This analysis is used to determine the extent of the effect of independent variables on the dependent variable, usually expressed as a percentage. The coefficient of determination is calculated using the formula:

Kd = r^2 x 100%
where:
Kd = Coefficient of Determination
r = Correlation Coefficient

Table 9. Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.785[a]	.616	.606	2.293
a. Predictors: (Constant), Job Characteristics, Work Environment				
2	.868[a]	.753	.744	2.296
a. Predictors: (Constant), Work Motivation, Work Environment, Job Characteristics				

In Model 1, the coefficient of determination (R^2) is 0.616, or 61.6%. This indicates that 61.6% of the variation in the dependent variable (Z) is explained by the independent variables (X1 and X2), while 38.4% is attributed to other factors not considered in the study. The standard error of estimate is e1 = √(1 - 0.616) = √0.384 = 0.620. In Model 2, the coefficient of determination (R^2) is 0.753, or 75.3%. This means that 75.3% of the variation in the dependent variable (Y) is explained by the independent variables (X1, X2, and Z), while 24.7% is due to other factors not examined by the researcher. The standard error of estimate is e2 = √(1 - 0.753) = √0.247 = 0.497.

Table 10. Path Diagram

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.652	3.055		1.196	.235
	Work Environment (X_1)	.372	.121	.368	3.086	.003
	Job Characteristics (X_2)	.396	.104	.455	3.811	.000
A. Dependent Variable: Work Motivation (Y)						
2	(Constant)	1.858	3.086		.602	.549
	Work Environment (X_1)	.261	.128	.208	2.041	.045
	Job Characteristics (X2)	.239	.113	.222	2.117	.037
	Work Motivation (Z)	.632	.112	.509	5.643	.000
a. Dependent Variable: Performance Achievement (Y)						

In Model 1, the effect of X1 on Z is 0.368, and the effect of X2 on Z is 0.455. In Model 2, the direct effect of X1 on Y is 0.208, while the indirect effect of X1 on Y through Z is calculated as the product of the effect of X1 on Z (0.368) and the effect of Z on Y (0.509), resulting in 0.368 x 0.509 = 0.187. The direct effect of X1 on Y (0.208) is higher than the indirect effect through Z (0.187), indicating that X1 has a significant direct impact on Y. Conversely, the direct effect of X2 on Y is 0.222, while the indirect effect of X2 on Y through Z is the product of the effect of X2 on Z (0.455) and the effect of Z on Y (0.509), resulting in 0.455 x 0.509 = 0.232. Here, the indirect effect of X2 on Y (0.232) is greater than the direct effect (0.222), suggesting that X2 has a significant indirect effect on Y.

Sobel Test

Table 11. Sobel Test Calculation

Variable	Direct Effect (Unstandardized)	Std. Error Direct	Indirect Effect (Unstandardized)	Std. Error Indirect
Work Environment (X_1) to Work Motivation (Z)	0.372	0.121	0.235	0.078
Work Motivation (Z) to Performance Achievement (Y)	0.632	0.112	-	-
Job Characteristics (X_2) to Work Motivation (Z)	0.396	0.104	0.250	0.072
Work Motivation (Z) to Performance Achievement (Y)	0.632	0.112	-	-

Notes:

1. **Direct Effect:** Represents the immediate impact of the independent variable on the mediating variable (Z) or the effect of the mediating variable (Z) on the dependent variable (Y). The value of 0.372 indicates the effect of Work Environment (X1) on Work Motivation (Z), while 0.632 reflects the effect of Work Motivation (Z) on Performance Achievement (Y).
2. Indirect Effect: Represents the effect of the independent variable on the dependent variable (Y) through the mediating variable (Z). The value of 0.235 demonstrates the impact of Work Environment (X1) on Performance Achievement (Y) via Work Motivation (Z). This value is obtained by multiplying the direct effect of X1 on Z by the direct effect of Z on Y.

Table 12. Sobel Test Calculation Results

Independent Variable	a	b	sa	sb	Test statistik	p-Value	Conclusion
Work Environment (X_1)	0.372	0.632	0.121	0.112	2.699	0.003	Significant
Job Characteristics (X_2)	0.396	0.632	0.104	0.112	3.156	0.001	Significant

Interpretation of Results:

1. The Sobel Test results indicate a significance value of 0.003 < 0.05, demonstrating that Work Motivation (Z) significantly mediates the effect of Work Environment (X_1) on Performance Achievement (Y).
2. The Sobel Test results also show a significance value of 0.001 < 0.05, proving that Work Motivation (Z) significantly mediates the effect of Job Characteristics (X_2) on Performance Achievement (Y)

Discussion

The research findings indicate that the work environment significantly impacts employee motivation and performance. This is consistent with Frederick Herzberg and Bernard Mausner's Hygiene Theory (2017), which suggests that while certain factors—such as supervision, interpersonal relationships, working conditions, salary, administrative policies, benefits, and job security—do not directly motivate employees, their absence can lead to dissatisfaction. The study corroborates Herzberg and Mausner's theory by showing a significant influence of the work environment on both employee motivation and performance. This aligns with Hermawan's (2022) findings that the work environment significantly affects employee performance at PT. Sakti Mobile Jakarta, with an effect size of 37.8%, and Nurjaya's (2021) research, which highlights the positive and significant impact of the work environment on employee performance at PT. Hazara Cipta Pesona.

The study also reveals that job characteristics have a significant effect on employee motivation and performance. This supports the Job Characteristics Model developed by Hackman and Oldham (1976), which posits that job attributes such as skill variety, task identity, task significance, autonomy, and feedback can influence motivation, performance, and job satisfaction. The results are consistent with Habibah and Siregar's (2023) research, which found that job characteristics positively and significantly affect job satisfaction among millennial freelancers in Medan, contributing 43.1%.

Additionally, the research shows that work motivation significantly impacts employee performance. In this study, work motivation encompasses factors like achievement, recognition, job nature, responsibility, and personal development opportunities, as outlined by Frederick Herzberg and Bernard Mausner (2017). The measurement of these factors reflects their influence on employee performance at Disdikbud Muaro Jambi. This finding aligns with Lotu et al.'s (2022) study, which demonstrates that work motivation significantly affects employee performance at the Sudiroprajan Village Office.

Overall, the research highlights that work environment, job characteristics, and work motivation all significantly affect employee performance. These findings are consistent with previous studies and theories, emphasizing the importance of these factors in enhancing employee motivation and performance. For organizations like Disdikbud Muaro Jambi, focusing on improving working conditions and job characteristics is crucial for boosting employee motivation and performance. The study adds valuable insights into how these elements can influence employee performance in the education sector.

CONCLUSIONS

This study seeks to investigate how the work environment, job characteristics, and work motivation affect employee performance at the Muaro Jambi Education Office. Based on the analysis and discussion, the following conclusions can be drawn from this research:

1. The research demonstrates that the work environment significantly and strongly impacts employee work motivation, with a coefficient of determination of 61.6%. Although the direct

effect of the work environment on employee performance is relatively modest at 20.8%, it still plays a critical role in influencing performance through its effect on work motivation. This highlights the importance of fostering a supportive work environment to boost motivation and, consequently, performance.

2. Job characteristics have a notable impact on work motivation, with a coefficient of determination of 45.5%. Although their direct effect on employee performance is relatively low (22.2%), it is still significant. This suggests that while job characteristics are influential in improving motivation and performance, their impact is more pronounced when they first enhance work motivation.
3. Work motivation has a strong and significant effect on employee performance, with a coefficient of determination of 50.9%. This underscores that work motivation is a crucial factor in achieving the desired level of employee performance.
4. Both the work environment and job characteristics affect employee performance through work motivation. The indirect effect of the work environment on performance via motivation is 18.7%, while the indirect effect of job characteristics on performance through motivation is 23.2%. These figures indicate that work motivation is a key link between the work environment, job characteristics, and employee performance.
5. The combined influence of the work environment, job characteristics, and work motivation on employee performance is substantial, with a strong coefficient of determination of 75.3%. This demonstrates that effectively integrating these three factors can significantly enhance employee performance.

Prospects for Research Development

1. Based on these findings, management at the Muaro Jambi Education Office should implement strategies aimed at enhancing the work environment and developing more engaging job characteristics. These improvements are expected to boost employee motivation, which will, in turn, positively influence employee performance.
2. This research underscores the need for policies that support the enhancement of the work environment and job design. Such policies might include upgrading work facilities, investing in employee training and development, and offering appropriate rewards and incentives.
3. These findings are relevant to other organizations with similar working conditions. Organizations can use these insights to improve employee motivation and performance by focusing on better work environments and job characteristics.
4. Future research could explore additional variables that may impact employee performance, such as leadership styles, organizational culture, and work-life balance. Longitudinal studies could also be conducted to track changes in employee motivation and performance over time.

Overall, this research provides valuable insights into the factors affecting employee performance and emphasizes the role of work motivation as a mediator. These findings can serve as a basis for policy development and managerial interventions aimed at improving employee performance.

REFERENCES

Autin, K. L. (2022). Basic Psychological Need Satisfaction, Autonomous Motivation, and Meaningful Work: A Self-Determination Theory Perspective. *Journal of Career Assessment*, *30*(1), 78–93. https://doi.org/10.1177/10690727211018647

Buil, I., Martínez, E., & Matute, J. (2019). Transformational leadership and employee performance: The role of identification, engagement and proactive personality. *International Journal of Hospitality Management*, *77*, 64–75. https://doi.org/10.1016/j.ijhm.2018.06.014

Cangialosi, N. (2023). Designing innovative jobs: a fuzzy-set configurational analysis of job characteristics. *Personnel Review*, *52*(1), 382–399. https://doi.org/10.1108/PR-02-2021-0105

Ciobanu, A. (2019). An integrated psycho-sociological perspective on public employees' motivation

and performance. In *Frontiers in Psychology* (Vol. 10). https://doi.org/10.3389/fpsyg.2019.00036

Creswell, J. W. (2014). The Selection of a Research Approach. In *Research Design*. Sage. https://doi.org/45593:01

Disdikbud.muaroJambi. (2023). *Strategic Plan (RENSTRA) Muaro Jambi Regency Education and Culture Office 2023-2028*.

Eliyana, A. (2019). Job satisfaction and organizational commitment effect in the transformational leadership towards employee performance. *European Research on Management and Business Economics*, *25*(3), 144–150. https://doi.org/10.1016/j.iedeen.2019.05.001

Fernando, A., Gaol, L., & Yaksa, R. A. (2023). *Motivational Factors in Encouraging Student Learning Success at SMA 4 Jambi City*. *05*(02), 2801–2807.

Frederick Herzberg, Bernard Mausner, B. B. S. (2017). Motivation to Work. In *Routledge*. https://doi.org/10.1111/j.1478-4408.1970.tb02928.x

Ghozali, I. (2018). *Multivariate Analysis Application with the IBM SPSS 25 Program (Ninth). Diponegoro University Publishing Agency*.

Haar, J. (2022). High performance work systems and innovation in New Zealand SMEs: testing firm size and competitive environment effects. *International Journal of Human Resource Management*, *33*(16), 3324–3352. https://doi.org/10.1080/09585192.2021.1894213

Hamdi, M., Sultoni, S., & Sukma, A. (2022). *The Role of Family, School, and Society in Moral Development and Character Building Elementry School Age Children*. *Journal Prajaiswara, 3*(2), 156-169.

Hamdi, M. (2014). *Comparative Study of IPDN Praja Interpersonal Competencies Based on Gender and Ethnicity and the Implications for the Development of Guidance and Counseling Programs. In (Doctoral dissertation, Indonesian Education University).*

Hamdi, M. (2016). *Personality Theory An Introduction (1st ed.). Al-Fabeta.*.

Hamdi, M. (2022). *Personality Theory An Introduction* (EC00202235675). https://e-hakcipta.dgip.go.id/index.php/c?code=NDBmZTVjY2M1ODRhOTlmMDIxNjk3NGYzYmE1NThiNjYK

Hamdi, M., Yusra, A., & Sarman, F. (2022). *Solution Focused Brief Counseling (SFBC) Group Counseling to Improve Understanding of the Main Tasks of Changes in Personnel Regulations in Regional Government Institutions*. *Bulletin of Counseling and Psychotherapy*, *4*(3), 618–627. https://doi.org/10.51214/bocp.v4i3.414

Hamdi, M., Yusra, A., & Sarman, F. (2022b). *Solution Focused Brief Counseling (SFBC) Group Counseling to Improve Understanding of the Main Tasks of Changes in Personnel Regulations in Regional Government Institutions* (EC002022109197). https://e-hakcipta.dgip.go.id/index.php/c?code=ZGNjODlmYWQyMTQ0MWYzYmU5ZWFhYjYwYjYzNDNkMjIK

Hameed, Z. (2020). Do green HRM practices influence employees' environmental performance? *International Journal of Manpower*, *41*(7), 1061–1079. https://doi.org/10.1108/IJM-08-2019-0407

Hauwaert, E. Van der. (2022). The impact of enabling performance measurement on managers' autonomous work motivation and performance. *Management Accounting Research*, *55*. https://doi.org/10.1016/j.mar.2021.100780

Heppner, P. P., Wampold, B. E., & Kivlighan, D. M. (2007). Quasi-experimental and time-series designs. In *Research design in counseling*. Brooks/Cole Pub Co.

Hermawan, E. (2022). *The Influence of Work Environment, Work Stress, and Workload on PT Performance. Sakti Mobile Jakarta. Journal of Scientific Studies*. https://ejurnal.ubharajaya.ac.id/index.php/JKI/article/view/1708

J. Richard Hackman, G. R. O. (1976). Motivation through the Design of Work: Test of a Theory. *Organizational Behavior and Human Performance*, *16*(8), 250–279. https://doi.org/10.1088/1751-8113/44/8/085201

Kennedy, K. A. (2023). Job Characteristics Associated with Intent to Quit among Nursing Home Employees and Managers. *Gerontologist*, *63*(1), 108–119. https://doi.org/10.1093/geront/gnac134

Kim, Y. J., Kim, W. G., Choi, H.-M., & Phetvaroon, K. (2019). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. *International Journal of Hospitality Management*, *76*, 83–93. https://doi.org/10.1016/j.ijhm.2018.04.007

Liao, H. (2022). Feeling Good, Doing Good, and Getting Ahead: A Meta-Analytic Investigation of the Outcomes of Prosocial Motivation at Work. *Psychological Bulletin*, *148*(3), 158–198. https://doi.org/10.1037/bul0000362

Lotu, N. A., Widodo, Z. D., & Sumarto, L. (2022). *The Influence of Work Stress, Work Motivation and Work Discipline on Employee Performance at the Sudiroprajan Subdistrict Office*. *Publik: Journal of Human Resources Management, Administration and Public Services*. https://stia-binataruna.e-journal.id/PUBLIK/article/view/456

Matschke, C. (2023). Social identities and the achievement gap: Incompatibility between social class background and student identity increases student disidentification, which decreases performance and leads to higher dropout rates. *British Journal of Social Psychology*, *62*(1), 161–180. https://doi.org/10.1111/bjso.12563

Melnick, E. R. (2023). Funding Research on Health Workforce Well-being to Optimize the Work Environment. In *JAMA* (Vol. 329, Issue 14, pp. 1145–1146). https://doi.org/10.1001/jama.2023.2073

Miao, R. (2019). High-performance work system, work well-being, and employee creativity: Cross-level moderating role of transformational leadership. *International Journal of Environmental Research and Public Health*, *16*(9). https://doi.org/10.3390/ijerph16091640

Moleong, Lexy J., M.A, P. D. (1989). *Qualitative Research Methodology (ed.). Rosdakarya Youth, Bandung.*.

Nurjaya, N. (2021). *The Influence of Work Discipline, Work Environment and Work Motivation on Employee Performance at Pt. Hazara Cipta Pesona. ACCELERATION: National Scientific Journal*. https://garuda.kemdikbud.go.id/documents/detail/1978332

Ogbonnaya, C. (2019). Employee performance, well-being, and differential effects of human resource management subdimensions: Mutual gains or conflicting outcomes? *Human Resource Management Journal*, *29*(3), 509–526. https://doi.org/10.1111/1748-8583.12203

Papa, A., Dezi, L., Gregori, G. L., Mueller, J., & Miglietta, N. (2020). Improving innovation performance through knowledge acquisition: the moderating role of employee retention and human resource management practices. *Journal of Knowledge Management*, *24*(3), 589–605. https://doi.org/10.1108/JKM-09-2017-0391

Park, S. (2019). Employee Adaptive Performance and Its Antecedents: Review and Synthesis. In *Human Resource Development Review* (Vol. 18, Issue 3, pp. 294–324). https://doi.org/10.1177/1534484319836315

Peny-Dahlstrand, M. (2023). The Cognitive Orientation to daily Occupational Performance (CO-OP) Approach is superior to ordinary treatment for achievement of goals and transfer effects in children with cerebral palsy and spina bifida–a randomized controlled trial. *Disability and Rehabilitation*, *45*(5), 822–831. https://doi.org/10.1080/09638288.2022.2043459

Pinto, A. de V. (2023). Encourage autonomy to increase individual work performance: the impact of job characteristics on workaround behavior and shadow IT usage. *Information Technology and Management*, *24*(3), 233–246. https://doi.org/10.1007/s10799-022-00368-6

Rasimin, & Hamdi, M. (2021). *Group Guidance and Counseling - Google Books. In B. S. Fatmawati (Ed.), Bumi Literacy. Literary Earth.* https://books.google.co.id/books/about/Bimbingan_dan_Konseling_Kelompok.html?id=DLdTEAAAQBAJ&redir_esc=y

Reilly, M. J., Wang, L., & Rosenman, K. D. (2023). Evaluation of the characteristics of workers injured on the job requiring hospitalization, and employer compliance with OSHA's reporting requirement for these work-related hospitalizations. *American Journal of Industrial Medicine*, *66*(2), 109–121. https://doi.org/10.1002/ajim.23447

Saleh, M. O. (2022). Empowerment Predicting Nurses' Work Motivation and Occupational Mental Health. *SAGE Open Nursing*, *8*. https://doi.org/10.1177/23779608221076811

Santiago-Torner, C. (2023). Ethical Climate and Creativity: The Moderating Role of Work Autonomy

and the Mediator Role of Intrinsic Motivation. *Cuadernos de Gestion*, *23*(2), 93–105. https://doi.org/10.5295/cdg.221729cs

Santoro, G. (2021). Searching for resilience: the impact of employee-level and entrepreneur-level resilience on firm performance in small family firms. *Small Business Economics*, *57*(1), 455–471. https://doi.org/10.1007/s11187-020-00319-x

Sarwar, H. (2020). Ethical leadership, work engagement, employees' well-being, and performance: a cross-cultural comparison. *Journal of Sustainable Tourism*, *28*(12), 2008–2026. https://doi.org/10.1080/09669582.2020.1788039

Shafagatova, A. (2023). Uncovering the Combined Impact of Process Characteristics and Reward Types on Employees' Job Satisfaction: A European Quantitative Study. *SAGE Open*, *13*(1). https://doi.org/10.1177/21582440231160125

Song, Q. (2019). Impact of the usage of social media in the workplace on team and employee performance. *Information and Management*, *56*(8). https://doi.org/10.1016/j.im.2019.04.003

Stempel, C. R. (2023). The domino effect: how leader job characteristics as antecedents of transformational leadership facilitate follower job characteristics. *European Journal of Work and Organizational Psychology*, *32*(5), 678–687. https://doi.org/10.1080/1359432X.2023.2208354

Sutja, A., Hamdi, M., Yaksa, R. A., & Muspawi, M. (2024). *Study of the Influence of Leadership , Organizational Climate , Commitment and Lecturer Creativity on Quality Management in Higher Education*. *21*(5), 682–691.

Ulrich, B. (2022). National Nurse Work Environments-October 2021: A Status Report. *Critical Care Nurse*, *42*(5), 58–70. https://doi.org/10.4037/ccn2022798

Vuong, B. N. (2023). The influence of servant leadership on job performance through innovative work behavior: does public service motivation matter? *Asia Pacific Journal of Public Administration*, *45*(3), 295–315. https://doi.org/10.1080/23276665.2022.2070517

Xu, Y. (2022). Decent work and innovative work behaviour: Mediating roles of work engagement, intrinsic motivation and job self-efficacy. *Creativity and Innovation Management*, *31*(1), 49–63. https://doi.org/10.1111/caim.12480

Zeng, D. (2022). Impact of Intrinsic and Extrinsic Motivation on Work Engagement: A Cross-Sectional Study of Nurses Working in Long-Term Care Facilities. *International Journal of Environmental Research and Public Health*, *19*(3). https://doi.org/10.3390/ijerph19031284