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Employee Performance in a Regional Disaster Management Agency: The Roles of Work Environment, Organizational Culture, and Work Motivation

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Abstract

This Disaster management agencies require reliable employees because their public service duties are performed under routine administrative demands and emergency conditions. This study examines the influence of work environment, organizational culture, and work motivation on employee performance at the Regional Disaster Management Agency (BPBD) of West Sumatra Province. The study used a quantitative associative design with path analysis. The analyzed data consisted of survey responses from 63 BPBD employees. The instruments were tested for validity and reliability, and the data were analyzed through descriptive statistics, assumption testing, and hypothesis testing. The results show that work environment, organizational culture, and work motivation simultaneously explain 50.6% of employee performance variance. Partially, work environment significantly influences employee performance (path coefficient = 0.140; $p = 0.012$), organizational culture significantly influences employee performance (path coefficient = 0.171; $p = 0.001$), and work motivation has the strongest direct contribution (path coefficient = 0.238; $p = 0.022$). Work environment and organizational culture also significantly influence work motivation. These findings indicate that BPBD performance improvement should integrate workspace quality, internal culture, and employee motivation programs rather than treating performance as only an individual discipline issue.

Keywords: employee performance; disaster management; organizational culture; work environment; work motivation

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Introduction

Regional disaster management agencies are public organizations that must maintain performance under two different conditions. In normal times, they perform planning, preparedness, prevention, administrative reporting, coordination, and community service. During emergencies, they must work quickly across institutions, mobilize logistics, provide information, and support field operations. Because of this dual demand, employee performance in a Regional Disaster Management Agency cannot be understood only as the achievement of routine administrative targets. It must also be seen as the organizational capacity to work accurately, responsibly, and collaboratively in support of disaster risk reduction and public safety (Comfort et al., 2004; Alhadi et al., 2024; Marlaini et al., 2025).

In the Indonesian context, regional disaster management is implemented through Regional Disaster Management Agency (BPBD) at provincial and district or city levels. BPBD of West Sumatra Province works in a region exposed to multiple hazards and therefore requires employees who are able to perform effectively, follow procedures, communicate across units, and maintain work readiness. Human resource management is consequently a strategic dimension of disaster governance. A disaster management organization may have formal mandates and programs, but those mandates will not be translated into effective service if employees do not have supportive work conditions, shared organizational values, and strong motivation (Alhadi et al., 2024; Marlaini et al., 2025).

The empirical basis of this article comes from study which examined work environment, organizational culture, work motivation, and employee performance in BPBD West Sumatra Province. The BPBD official reported that the agency expected employee performance to reach a very good category, while available performance data in the background still showed a good but not yet very good level. The report also documented discipline-related issues, including late attendance and the need for stronger organizational culture, workspace quality, and motivation. These conditions justify a more focused academic article that positions employee performance as part of disaster management institutional strengthening.

This article has three contributions. First, it brings a human resource management perspective into disaster management research by examining employee performance in a BPBD setting. Second, it elaborates the quantitative results of the study by explaining descriptive findings, path coefficients, direct and indirect effects, and practical implications. Third, it provides evidence-based recommendations for improving disaster management institutions through integrated interventions in work environment, organizational culture, and work motivation (Diamantidis & Chatzoglou, 2019).

The purpose of this study is to analyze the effects of work environment, organizational culture, and work motivation on employee performance at BPBD West Sumatra Province. The study also analyzes whether work environment and organizational culture influence work motivation. By doing so, the article explains not only direct performance determinants but also the organizational conditions that shape motivation as an internal driver of performance (Frinaldi et al., 2023b).

Literature Review and Hypothesis

Employee Performance in Public Disaster Management

Employee performance refers to the quality, quantity, timeliness, responsibility, and effectiveness of work produced by employees in carrying out organizational tasks. In public organizations, performance is not only a managerial issue but also a public accountability issue because employee outputs are connected to citizens and service users. In disaster management agencies, the meaning of performance becomes more complex because employees must support routine preparedness programs and urgent response functions. Their performance may affect coordination quality, timeliness of administrative and operational tasks, and the credibility of the agency before the public (Diamantidis & Chatzoglou, 2019; Frinaldi et al., 2023a; Lanin et al., 2023).

The study operationalized employee performance through indicators related to accuracy, work quality, timeliness, target achievement, knowledge of work, compliance with programs, responsibility, and awareness to complete tasks. These indicators are suitable for a BPBD context because disaster management work requires disciplined execution of tasks, knowledge of procedures, and a sense of responsibility. Therefore, performance improvement should address both individual work behavior and organizational conditions that enable such behavior (Diamantidis & Chatzoglou, 2019).

Work Environment and Employee Performance

Work environment refers to physical and non-physical conditions surrounding employees while they perform their duties. It includes lighting, temperature, workspace arrangement, noise, security, equipment, relationships with colleagues, and work rules. A supportive environment helps employees focus, reduces fatigue, and enables smoother work processes. In contrast, poor

workspace conditions can create stress, reduce concentration, and weaken productivity (Pawirosumarto et al., 2017; Vischer, 2007; Diamantidis & Chatzoglou, 2019).

In BPBD, the work environment is especially important because the agency must maintain readiness and coordination. Workspace discomfort, inadequate equipment, or internal noise may appear as ordinary office issues, but in disaster management organizations such conditions can reduce the speed and quality of task completion. Based on this logic, the first hypothesis is formulated as follows (Comfort et al., 2004; Pawirosumarto et al., 2017).

H1: Work environment has a positive and significant effect on employee performance.

Organizational Culture and Employee Performance

Organizational culture refers to shared values, norms, beliefs, and patterns of behavior that guide organizational members. In public agencies, culture influences discipline, innovation, teamwork, accountability, and the acceptance of change. Culture is therefore closely connected to performance because it shapes how employees interpret tasks, communicate with colleagues, and respond to organizational expectations (Chatman & O'Reilly, 2016; Hartnell et al., 2011; Frinaldi et al., 2023a).

A disaster management agency requires a culture that is both disciplined and adaptive. Discipline ensures that formal procedures are followed, while adaptability enables employees to respond to changing risk and emergency situations. If innovation is not encouraged, new ideas are not valued, or organizational change is not planned, performance can stagnate. Therefore, the second hypothesis is formulated as follows (Comfort et al., 2004; Alhadi et al., 2024; Frinaldi et al., 2023a).

H2: Organizational culture has a positive and significant effect on employee performance.

Work Motivation and Employee Performance

Work motivation is the internal and external drive that encourages employees to use their abilities, accept responsibility, and pursue work goals. Motivated employees are more likely to complete tasks, seek achievement, improve skills, and work beyond minimum requirements. In disaster management, motivation is particularly important because employees may face unpredictable workloads, pressure from urgent public needs, and assignments that require cooperation across units (Perry et al., 2010; Ritz et al., 2016; Frinaldi et al., 2023b).

Motivation theories such as Herzberg and McClelland emphasize the role of achievement, recognition, responsibility, growth, affiliation, and power in shaping work behavior. In the context of BPBD, motivation may arise from the desire to perform well, gain recognition, obtain development opportunities, and contribute to public safety. Therefore, the third hypothesis is formulated as follows (Perry et al., 2010; Ritz et al., 2016; Paais & Pattiruhu, 2020).

H3: Work motivation has a positive and significant effect on employee performance.

Work Environment, Organizational Culture, and Work Motivation

Motivation is not only an individual psychological attribute. It can be strengthened or weakened by organizational conditions. Employees may become more motivated when they work in a safe, comfortable, and cooperative environment. Conversely, inadequate workspace, internal noise, lack of security, and weak collaboration can reduce motivation even when employees have strong personal commitment (Pawirosumarto et al., 2017; Diamantidis & Chatzoglou, 2019; Frinaldi et al., 2023b).

Organizational culture also shapes motivation. When an agency appreciates achievement, values new ideas, gives fair recognition, supports teamwork, and manages change in a planned way, employees tend to feel more encouraged to contribute. For this reason, the fourth and fifth hypotheses are formulated as follows. Previous empirical studies in Indonesian public and organizational settings also show that work environment, organizational culture, and motivation are associated with employee performance, although the strength and direction of each determinant vary across organizational contexts (Paais & Pattiruhu, 2020; Frinaldi et al., 2023b; Lanin et al., 2023).

H4: Work environment has a positive and significant effect on work motivation.

Method

This study used a quantitative associative design. The design was appropriate because the study aimed to test relationships among variables and estimate the direct and indirect influence of work environment, organizational culture, and work motivation on employee performance. The study was conducted at the Regional Disaster Management Agency of West Sumatra Province.

The analyzed survey data consisted of 63 BPBD employees. Data were collected using a structured questionnaire based on the operational indicators of each variable. Employee performance was measured through indicators of accuracy, quality of work, timeliness, target achievement, job knowledge, program compliance, responsibility, and task awareness. Work environment was measured through lighting, workspace comfort, temperature, odor, noise, security, cooperation, and conflict. Organizational culture was measured through innovation, appreciation of ideas, attention to detail, outcome orientation, welfare orientation, decision-making consideration, teamwork, organizational excellence, and planned change. Work motivation was measured through willingness to do the best, responsibility, appreciation, willingness to take additional tasks, education opportunity, training opportunity, independence, and ability to direct personal capacity toward optimal results (Diamantidis & Chatzoglou, 2019; Pawirosumarto et al., 2017).

The instrument used a Likert scale. Instrument quality was assessed through validity and reliability testing. The study reported that all measurement items were valid because their corrected item correlations exceeded the table value used in the instrument test. Reliability testing also showed that all variables were reliable, with Cronbach alpha values of 0.887 for work environment, 0.890 for organizational culture, 0.912 for work motivation, and 0.913 for employee performance. These values indicate that the questionnaire had strong internal consistency.

Data were analyzed using descriptive statistics and path analysis. Descriptive statistics were used to determine the tendency of each variable through mean and respondent achievement level (TCR). Path analysis was used to test five hypotheses and to estimate the direct and indirect effects among variables. Before path analysis, the data were tested for normality, heteroscedasticity, multicollinearity, and linearity. The significance level used in the hypothesis tests was 0.05.

Result and Discussion

Respondent Characteristics

The respondents were dominated by male employees. Of 63 respondents, 49 were male (78%) and 14 were female (22%). This composition is understandable in a disaster management agency where field-related coordination, logistics, and emergency assignments may historically involve more male employees. However, the presence of female employees remains important for administrative, coordination, preparedness, community engagement, and gender-sensitive disaster management functions.

The age structure was relatively balanced. Respondents aged 20-30 years accounted for 27%, those aged 31-40 years accounted for 24%, those aged 41-50 years accounted for 24%, and those aged 51-60 years accounted for 25%. This balanced age distribution means that BPBD West Sumatra has both younger employees and experienced employees approaching retirement age. For performance management, this condition can be beneficial if the agency uses mentoring, knowledge transfer, and intergenerational teamwork. Younger employees may contribute technological adaptability and energy, while senior employees may provide institutional memory and disaster management experience (Perry et al., 2010).

In terms of education, most respondents held a bachelor degree, namely 32 employees or 51%. Respondents with senior high school background accounted for 22%, master degree holders accounted for 16%, diploma graduates accounted for 10%, and one respondent held a doctoral degree. This education profile indicates that BPBD West Sumatra has a relatively educated workforce, although continuous technical and managerial training remains necessary because disaster management involves changing regulations, technology, risk communication practices, and coordination mechanisms (Alhadi et al., 2024).

The length of service also varied. Nineteen respondents (30%) had less than five years of service, ten respondents (16%) had six to ten years of service, thirteen respondents (21%) had eleven to fifteen years of service, six respondents (10%) had sixteen to twenty years of service, seven respondents (11%) had twenty-one to twenty-five years of service, and eight respondents (13%) had more than twenty-six years of service. This mixture of tenure reinforces the need for knowledge management and structured capacity development.

Table 1. Respondent Characteristics

Characteristic	Category	Frequency	Percentage
Gender	Male	49	78%
Gender	Female	14	22%
Age	20-30 years	17	27%
Age	31-40 years	15	24%
Age	41-50 years	15	24%
Age	51-60 years	16	25%
Education	Senior high school	14	22%
Education	Diploma	6	10%
Education	Bachelor	32	51%
Education	Master	10	16%
Education	Doctoral	1	2%
Length of service	< 5 years	19	30%
Length of service	6-10 years	10	16%
Length of service	11-15 years	13	21%
Length of service	16-20 years	6	10%
Length of service	21-25 years	7	11%
Length of service	> 26 years	8	13%

Instrument Validity and Reliability

The instrument testing in the study showed that all questionnaire items for work environment, organizational culture, work motivation, and employee performance were valid. The work environment items had corrected item correlations ranging from 0.508 to 0.890. The organizational culture items had corrected item correlations ranging from 0.547 to 0.820. The work motivation items had corrected item correlations ranging from 0.569 to 0.900. The employee performance items had corrected item correlations ranging from 0.595 to 0.853. These results indicate that each item was able to measure its intended construct.

Reliability testing further confirmed that the instrument was consistent. Cronbach alpha was 0.887 for work environment, 0.890 for organizational culture, 0.912 for work motivation, and 0.913 for employee performance. Since all values exceeded 0.80, the instrument can be categorized as highly reliable. This strengthens the credibility of the subsequent descriptive and path analysis results.

Table 2. Reliability Test Results

Variable	Cronbach Alpha	Interpretation
Work environment	0.887	Reliable
Organizational culture	0.890	Reliable
Work motivation	0.912	Reliable
Employee performance	0.913	Reliable

Descriptive Result of Work Environment

The overall TCR of work environment was 68.0%, with a mean score of 3.40. This value places the variable in the fairly good category. The result shows that the work environment at BPBD West Sumatra was not poor, but it was not yet strong enough to fully support optimal employee performance. The study results indicate several specific strengths and weaknesses.

The strongest work environment indicator was lighting equipment in the room, with a TCR of 76.5%. This was followed by absence of unpleasant odor (73.7%), being away from noise

(72.4%), and lighting that helps task completion (70.2%). These indicators suggest that some basic physical conditions were perceived as fairly adequate. However, the low score on concentration despite being away from noise (51.7%) reveals a more subtle workspace problem. Employees may not necessarily identify external noise as the main issue, but their ability to concentrate was still disrupted. The disruption may come from internal office conversations, room arrangement, administrative traffic, or the absence of spaces for focused work (Vischer, 2007; Pawirosumarto et al., 2017).

Two other indicators were also below the desired level: workplace security that makes employees comfortable (64.1%) and cooperation with every colleague (64.8%). These findings suggest that work environment improvement should not be restricted to physical renovation. It should also address the psychosocial environment, including trust, team communication, inter-unit collaboration, and the sense of safety while performing tasks. For a disaster management agency, these aspects are crucial because employees must often work in coordinated teams and respond to urgent public needs (Comfort et al., 2004).

Table 3. Descriptive Result of Work Environment

Indicator	Mean	TCR	Category
Lighting equipment in the room is good and adequate	3.83	76.5%	Fairly good
Lighting helps task completion	3.51	70.2%	Fairly good
Air temperature supports work activity	3.37	67.3%	Fairly good
Workplace has no unpleasant odor	3.59	71.7%	Fairly good
Workplace is far from noise	3.62	72.4%	Fairly good
Able to concentrate well because away from noise	2.59	51.7%	Not good
Workplace security supports comfort	3.21	64.1%	Less good
Cooperates with every colleague	3.24	64.8%	Less good
Does not have conflict with colleagues	3.68	73.7%	Fairly good
Variable average	3.40	68.0%	Fairly good

Descriptive Result of Organizational Culture

The overall TCR of organizational culture was 67.2%, also in the fairly good category. This result means that BPBD West Sumatra already had a basic cultural foundation, but several cultural dimensions were not yet sufficiently strong. In a disaster management agency, organizational culture determines whether employees are willing to innovate, coordinate, follow details, and accept planned change (Chatman & O'Reilly, 2016; Hartnell et al., 2011).

The lowest indicator was organizational encouragement for employee innovation, with a TCR of 56.5%. Appreciation for new ideas also remained low, with a TCR of 62.5%. These two indicators are important because disaster risk and disaster response conditions can change rapidly. If employees feel that innovation is not encouraged and ideas are not appreciated, the agency may depend excessively on routine procedures and be slower in adapting to new problems. Attention to detail was also relatively low (61.3%). This is relevant because disaster management work often involves data accuracy, logistic records, reporting, coordination documents, and timely administrative processes (Frinaldi et al., 2023a; Alhadi et al., 2024).

The indicator on appreciation based on target achievement had a TCR of 59.4%, suggesting that recognition mechanisms may not yet be perceived as adequate. Meanwhile, planned organizational change also scored 61.3%, indicating the need for better communication and preparation during institutional change. Stronger results appeared in employee welfare orientation (78.4%), performance assessment based on results (72.7%), decision-making consideration for employees (72.4%), teamwork appreciation (72.1%), and the agency effort to be the best in its field (72.4%). Thus, the organizational culture has both enabling and constraining dimensions. The key issue is not the absence of culture but the need to move from basic cultural stability toward adaptive, innovative, and performance-oriented culture (Hartnell et al., 2011; Frinaldi et al., 2023a).

Table 4. Descriptive Result of Organizational Culture

Indicator	Mean	TCR	Category
Organization encourages employees to innovate	2.83	56.5%	Less good
New ideas are appreciated in the organization	3.13	62.5%	Less good
Employees are expected to pay attention to detail	3.06	61.3%	Less good
Detail supervision is important	3.51	70.2%	Fairly good
Employees are assessed based on results achieved	3.63	72.7%	Fairly good
Employees are appreciated based on target achievement	2.97	59.4%	Less good
Employee welfare is an organizational priority	3.92	78.4%	Fairly good
Decision making considers impact on employees	3.62	72.4%	Fairly good
Teamwork is highly appreciated	3.60	72.1%	Fairly good
Organization strives to be the best in its field	3.62	72.4%	Fairly good
Organizational change is planned	3.06	61.3%	Less good
Variable average	3.40	67.2%	Fairly good

Descriptive Result of Work Motivation

Work motivation achieved an overall TCR of 79.0%, with a mean score of 4.00. This is the highest descriptive score among the three independent variables and is close to the good category. The finding indicates that employees generally had a strong internal willingness to work and achieve results. This is an important asset for BPBD because disaster management work requires readiness, initiative, and commitment (Frinaldi et al., 2023b; Ritz et al., 2016).

The highest item was the ability to direct personal capacity toward optimal results, with a TCR of 92.7%, categorized as very good. This means that employees perceived themselves as able to mobilize their abilities for optimal work outcomes. Another strong indicator was willingness to do the best in tasks even when it required sacrificing other matters (85.7%). Appreciation or achievement also encouraged employees to work harder, with a TCR of 84.1%. These results show that recognition and a sense of achievement are important motivational drivers (Perry et al., 2010; Paais & Pattiruhu, 2020).

However, training opportunity scored only 67.6%, and independence in completing work without assistance scored 71.7%. These values indicate that employee motivation can be strengthened further through capacity development. Employees may have the willingness to perform but still need more structured training, mentoring, and technical support. In disaster management agencies, motivation without adequate skill development may not be sufficient because work increasingly involves data systems, communication technology, and coordination procedures (Frinaldi et al., 2023b).

Table 5. Descriptive Result of Work Motivation

Indicator	Mean	TCR	Category
Does the best in tasks even if sacrificing other matters	4.29	85.7%	Good
Completes every responsibility well	3.59	71.7%	Fairly good
Achievement or reward encourages harder work	4.21	84.1%	Good
Willing to do additional tasks for high achievement	3.79	75.9%	Fairly good
Obtains study opportunity to develop potential	4.13	82.5%	Good
Obtains training opportunity according to work field	3.38	67.6%	Fairly good
Able to complete work without asking for help	3.59	71.7%	Fairly good
Able to direct abilities to optimal results	4.63	92.7%	Very good
Variable average	4.00	79.0%	Fairly good

Descriptive Result of Employee Performance

Employee performance had an overall TCR of 78.3%, with a mean score of 3.90. This result indicates that performance was fairly good, but not yet optimal. The descriptive result is consistent with the background problem of the thesis, where performance had not yet reached the very good category expected by the agency. In a disaster management organization, this finding means that employees already possess a functional level of work performance but require

improvement in precision, target achievement, and consistent quality (Diamantidis & Chatzoglou, 2019).

The highest performance indicators were knowledge of the work being performed (81.9%) and awareness to perform tasks (81.6%), both categorized as good. This suggests that employees generally understand their responsibilities and have awareness to complete their duties. These are important foundations for performance improvement. Nevertheless, task accuracy (73.7%), above-average work output (76.8%), timeliness (78.4%), target achievement (77.1%), program-based work (78.4%), and responsibility (78.7%) remained in the fairly good category. These results imply that improving performance requires moving from basic awareness and knowledge to more consistent accuracy, timeliness, and target accomplishment (Diamantidis & Chatzoglou, 2019).

The pattern of scores also suggests that performance cannot be improved by individual pressure alone. The good scores on work knowledge and task awareness indicate that employees know what they should do. The remaining challenge is how the organization creates conditions that enable employees to perform better. This is why the relationship between performance and work environment, culture, and motivation becomes theoretically and practically important (Pawirosumarto et al., 2017).

Table 6. Descriptive Result of Employee Performance

Indicator	Mean	TCR	Category
Completes tasks carefully	3.68	73.7%	Fairly good
Able to produce work above average	3.84	76.8%	Fairly good
Always on time in completing tasks	3.92	78.4%	Fairly good
Able to work according to targets	3.86	77.1%	Fairly good
Has knowledge of the work performed	4.10	81.9%	Good
Able to work according to established programs	3.92	78.4%	Fairly good
Has high responsibility toward work	3.94	78.7%	Fairly good
Has awareness to perform tasks	4.08	81.6%	Good
Variable average	3.90	78.3%	Fairly good

Summary of Descriptive Findings

The descriptive findings reveal a consistent pattern. Work motivation had the highest score, followed by employee performance, work environment, and organizational culture. This means that the strongest asset of BPBD West Sumatra is employee motivation, while the most important areas needing institutional attention are organizational culture and work environment. The relatively high motivation score indicates that employees are willing to perform, but organizational support mechanisms need to be strengthened so that motivation can be translated into better performance (Frinaldi et al., 2023b).

The descriptive findings also show that each variable has a different managerial meaning. Work environment problems are concentrated in concentration, security, and collaboration. Organizational culture problems are concentrated in innovation, appreciation of ideas, target-based appreciation, detail orientation, and planned change. Motivation problems are concentrated in training opportunity and work independence. Performance problems are concentrated in task accuracy and achieving higher output standards. These details provide the basis for the interpretation of the path analysis results.

Table 7. Summary of Variable Achievement

Variable	Mean	TCR	Category	Main Interpretation
Work environment	3.40	68.0%	Fairly good	Needs improvement in concentration, security, and collaboration
Organizational culture	3.40	67.2%	Fairly good	Needs stronger innovation, appreciation, and planned change
Work motivation	4.00	79.0%	Fairly good	Strongest asset, but training opportunity needs strengthening
Employee performance	3.90	78.3%	Fairly good	Functional performance but not yet very good

Assumption Testing

The assumption tests confirmed that the data were suitable for path analysis. The normality test using Kolmogorov-Smirnov showed a significance value of 0.200 for work environment, organizational culture, work motivation, and employee performance. Since all values were higher than 0.05, the data distribution was considered normal.

The heteroscedasticity test also met the requirement because the significance values for work environment (0.618), organizational culture (0.137), and work motivation (0.151) were higher than 0.05. This indicates that the regression residuals did not show heteroscedasticity problems. The multicollinearity test showed VIF values of 1.386 for work environment, 1.400 for organizational culture, and 1.341 for work motivation. These values were below the common threshold of 10, indicating that the independent variables did not suffer from multicollinearity. The linearity test also showed that work environment (0.602), organizational culture (0.568), and work motivation (0.171) had linear relationships with the dependent variable because all values exceeded 0.05.

Table 8. Assumption Testing Results

Test	Variable/Model	Value	Decision
Normality	Work environment	Sig. 0.200	Normal
Normality	Organizational culture	Sig. 0.200	Normal
Normality	Work motivation	Sig. 0.200	Normal
Normality	Employee performance	Sig. 0.200	Normal
Heteroscedasticity	Work environment	Sig. 0.618	No heteroscedasticity
Heteroscedasticity	Organizational culture	Sig. 0.137	No heteroscedasticity
Heteroscedasticity	Work motivation	Sig. 0.151	No heteroscedasticity
Multicollinearity	Work environment	VIF 1.386; Tol. 0.722	No multicollinearity
Multicollinearity	Organizational culture	VIF 1.400; Tol. 0.714	No multicollinearity
Multicollinearity	Work motivation	VIF 1.341; Tol. 0.746	No multicollinearity
Linearity	Work environment	Sig. 0.602	Linear
Linearity	Organizational culture	Sig. 0.568	Linear
Linearity	Work motivation	Sig. 0.171	Linear

Path Analysis Results

The path analysis was divided into three structural models. The first model tested the effect of work environment on organizational culture. The result showed that work environment had a positive and significant effect on organizational culture, with a path coefficient of 0.494, t-value of 4.106, and p-value of 0.000. The R-square of this model was 0.217, meaning that work environment explained 21.7% of the variance in organizational culture. This finding indicates that better work conditions are associated with stronger organizational culture. In practice, employees who work in a comfortable, secure, and cooperative environment are more likely to perceive organizational values positively (Pawirosumarto et al., 2017).

The second model tested the effects of work environment and organizational culture on work motivation. The model was significant, with F-value of 10.219 and p-value of 0.000. The R-square was 0.254, meaning that work environment and organizational culture together explained 25.4% of work motivation variance. Partially, work environment influenced work motivation with a path coefficient of 0.149, t-value of 2.268, and p-value of 0.027. Organizational culture influenced work motivation with a path coefficient of 0.149, t-value of 2.406, and p-value of 0.019. These two equal path coefficients show that both work environment and culture have balanced roles in supporting motivation (Frinaldi et al., 2023b).

The third model tested the effects of work environment, organizational culture, and work motivation on employee performance. The model was significant, with F-value of 20.156 and p-value of 0.000. The R-square was 0.506, meaning that the three predictors explained 50.6% of employee performance variance. This explanatory power is meaningful in public administration

research because performance is usually influenced by many organizational, individual, and policy factors. The remaining 49.4% may be explained by other variables not included in the model, such as leadership, competence, training quality, job satisfaction, workload, organizational commitment, or policy support (Diamantidis & Chatzoglou, 2019).

Table 9. Path Analysis Results

Structural Model	Path	Coefficient	t/F	P-value	Decision
Model 1	Work environment -> organizational culture	0.494	t = 4.106	0.000	Significant
Model 2	Work environment -> work motivation	0.149	t = 2.268	0.027	Significant
Model 2	Organizational culture -> work motivation	0.149	t = 2.406	0.019	Significant
Model 2	Work environment and organizational culture -> work motivation	R-square = 0.254	F = 10.219	0.000	Significant
Model 3	Work environment -> employee performance	0.140	t = 2.604	0.012	Significant
Model 3	Organizational culture -> employee performance	0.171	t = 3.363	0.001	Significant
Model 3	Work motivation -> employee performance	0.238	t = 2.345	0.022	Significant
Model 3	All predictors -> employee performance	R-square = 0.506	F = 20.156	0.000	Significant

Direct and Indirect Effects

The study also calculated direct and indirect effects. The direct effect of work environment on employee performance was 1.9%. The indirect effect of work environment on employee performance through organizational culture was 1.2%, while its indirect effect through work motivation was 0.4%. These values show that work environment influences performance both directly and through internal organizational mechanisms. Although the direct coefficient is modest, the result is still significant and practically meaningful because work environment is a foundational condition that shapes other variables (Vischer, 2007).

The direct effect of organizational culture on employee performance was 2.9%, while its indirect effect through work motivation was 0.6%. This means that organizational culture improves performance mainly through its direct role in shaping employee behavior, norms, discipline, and teamwork. However, culture also contributes indirectly by increasing employee motivation. The direct effect of work motivation on employee performance was 5.6%, the largest direct effect among the tested predictors. This confirms that motivation is the strongest immediate driver of performance in the model (Ritz et al., 2016; Paais & Pattiruhu, 2020).

The direct effect of work environment on work motivation was 2.2%, and the direct effect of organizational culture on work motivation was also 2.2%. This balanced result indicates that motivation in BPBD West Sumatra is shaped by both tangible work conditions and intangible cultural conditions. Employees need comfortable and secure working conditions, but they also need recognition, teamwork, innovation opportunities, and planned organizational change (Frinaldi et al., 2023a; Frinaldi et al., 2023b).

Table 10. Direct and Indirect Effects

Effect	Calculation Basis	Percentage	Interpretation
Work environment -> employee performance	Direct effect	1.9%	Significant direct contribution
Work environment -> organizational culture -> employee performance	Indirect effect	1.2%	Culture transmits part of work environment influence

Work environment -> work motivation -> employee performance	Indirect effect	0.4%	Motivation transmits part of work environment influence
Organizational culture -> employee performance	Direct effect	2.9%	Significant direct contribution
Organizational culture -> work motivation -> employee performance	Indirect effect	0.6%	Motivation transmits part of cultural influence
Work motivation -> employee performance	Direct effect	5.6%	Largest direct contribution
Work environment -> work motivation	Direct effect	2.2%	Work conditions support motivation
Organizational culture -> work motivation	Direct effect	2.2%	Culture supports motivation

Hypothesis Testing

All five hypotheses were supported. Work environment significantly influenced employee performance, organizational culture significantly influenced employee performance, and work motivation significantly influenced employee performance. In addition, work environment and organizational culture significantly influenced work motivation. Among the direct effects on performance, work motivation had the strongest coefficient, followed by organizational culture and work environment. This ranking is important because it suggests that motivational strengthening should be prioritized while still being supported by workspace and cultural improvement.

The acceptance of all hypotheses also means that the proposed model is coherent. Work environment and organizational culture are not only independent predictors of employee performance; they also act as organizational antecedents of motivation. Therefore, the model provides a practical explanation of performance: employees perform better when they are motivated, and motivation becomes stronger when the organization provides better work conditions and culture (Pawirosumarto et al., 2017; Frinaldi et al., 2023b).

Table 11. Hypothesis Test Summary

Hypothesis	Statement	Coefficient	p-value	Result
H1	Work environment affects employee performance	0.140	0.012	Supported
H2	Organizational culture affects employee performance	0.171	0.001	Supported
H3	Work motivation affects employee performance	0.238	0.022	Supported
H4	Work environment affects work motivation	0.149	0.027	Supported
H5	Organizational culture affects work motivation	0.149	0.019	Supported

Discussion of the Effect of Work Environment on Employee Performance

The significant effect of work environment on employee performance confirms that employee performance at BPBD West Sumatra is affected by the quality of the workplace. A mean score of 3.40 and TCR of 68.0% indicate that the work environment is only fairly good. The significance of the path coefficient shows that even moderate improvements in work environment may produce performance gains. This is relevant to the study background, where workspace issues such as room discomfort, document accumulation, air conditioning problems, and workspace arrangement were described as possible factors affecting employee comfort and productivity (Vischer, 2007; Pawirosumarto et al., 2017).

The most critical indicator was employee concentration, which had the lowest TCR of 51.7%. In disaster management organizations, concentration is essential because employees deal with administrative accuracy, emergency data, communication, and coordination. If employees

cannot concentrate, errors can occur in reporting, planning, logistics, and public information. Therefore, the result suggests the need for quieter work areas, better room layout, reduced internal disturbances, and clear protocols for office communication (Vischer, 2007).

The security and collaboration indicators were also below optimal levels. Workplace security had a TCR of 64.1%, while cooperation with every colleague had a TCR of 64.8%. These results show that the work environment includes psychological and relational dimensions. Employees need to feel safe, trusted, and supported by colleagues. For BPBD, this is not merely an internal comfort issue. Disaster management work requires coordination, and weak cooperation may reduce organizational responsiveness. Therefore, improving the work environment should be integrated with team-building, communication routines, and clear division of roles (Comfort et al., 2004; Lanin et al., 2023).

Discussion of the Effect of Organizational Culture on Employee Performance

The significant effect of organizational culture on employee performance confirms that shared values and norms influence how BPBD employees perform. The path coefficient of 0.171 was higher than the coefficient of work environment, indicating that culture has a stronger direct influence on performance than the physical and psychosocial environment. This result is logical because culture shapes discipline, work habits, coordination style, innovation, and acceptance of organizational expectations (Chatman & O'Reilly, 2016; Hartnell et al., 2011).

The descriptive results show that organizational culture still requires substantial strengthening. Innovation encouragement had the lowest score (56.5%), followed by appreciation for target achievement (59.4%), attention to detail (61.3%), planned change (61.3%), and appreciation for new ideas (62.5%). These indicators are strategically important for a disaster management agency. BPBD employees must not only follow routines but also adapt to changing hazard patterns, community needs, communication technologies, and administrative demands. A weak innovation culture may make the agency less responsive to emerging disaster risks (Frinaldi et al., 2023a; Alhadi et al., 2024).

At the same time, the results show that BPBD already has several cultural assets. Employee welfare orientation, teamwork appreciation, result-based assessment, and consideration of employee impacts in decision making were in the fairly good category. These assets can be used as entry points for culture strengthening. Management can build on teamwork and welfare orientation to develop a more innovative and accountable culture. Practical steps may include structured idea forums, recognition for innovation, feedback after disaster response activities, and planned communication before organizational change (Lanin et al., 2023; Hartnell et al., 2011).

Discussion of the Effect of Work Motivation on Employee Performance

Work motivation had the strongest direct effect on employee performance. The path coefficient of 0.238 and direct effect of 5.6% show that motivation is the most immediate determinant of performance among the tested variables. This finding is supported by the descriptive result in which motivation had the highest TCR (79.0%) compared with the other independent variables. Employees generally reported strong willingness to direct their abilities toward optimal results and to do their best in completing tasks (Frinaldi et al., 2023b; Paais & Pattiruhu, 2020).

This result has important meaning for BPBD. Disaster management work often involves unpredictable assignments and public pressure. Employees who are motivated are more likely to accept additional tasks, maintain responsibility, and continue improving their capabilities. The very high score for the ability to direct personal capacity toward optimal results (92.7%) indicates that employees believe they can mobilize their abilities when needed. This is a valuable organizational asset (Comfort et al., 2004; Alhadi et al., 2024).

Nevertheless, motivation should not be viewed as already complete. Training opportunity had a TCR of only 67.6%, which means that employees may need more structured development opportunities. A motivated employee without sufficient training may not be able to perform optimally in a technical and dynamic field such as disaster management. Therefore, motivation programs should include capacity-building, technical training, career development, reward systems, and feedback mechanisms (Perry et al., 2010; Ritz et al., 2016).

Discussion of Work Environment and Organizational Culture as Antecedents of Motivation

The fourth and fifth hypotheses show that work environment and organizational culture both significantly influence work motivation, with the same path coefficient of 0.149. This means that motivation is shaped equally by workplace conditions and organizational culture. The result challenges a narrow view that motivation is only an internal characteristic of individual employees. Instead, motivation is partly produced by the institutional environment in which employees work (Frinaldi et al., 2023b).

The work environment supports motivation when employees can work comfortably, safely, and collaboratively. If employees face concentration problems, low security perception, or weak cooperation, their motivation may decline. This is consistent with the descriptive finding that work environment had several weak indicators. Therefore, improving motivation requires management to improve the daily experience of work (Vischer, 2007; Pawirosumarto et al., 2017).

Organizational culture supports motivation when employees feel that their ideas are valued, target achievement is appreciated, and change is managed in a planned way. The low culture scores on innovation and appreciation show that BPBD has room to strengthen motivational climate. When employees see that the organization values their contribution, they are more likely to feel encouraged to perform. Thus, work motivation should be treated as a product of both individual drive and organizational support (Frinaldi et al., 2023a; Lanin et al., 2023).

Integrated Discussion for Disaster Management Institutions

The integrated model explains that employee performance in BPBD West Sumatra is influenced by a chain of organizational and psychological factors. Work environment affects organizational culture and work motivation. Organizational culture affects work motivation and performance. Work motivation then becomes the strongest direct driver of performance. This pattern suggests that performance improvement should be designed as an integrated organizational reform rather than as isolated training or discipline enforcement (Comfort et al., 2004; Frinaldi et al., 2023a).

For disaster management institutions, this integrated interpretation is important. BPBD employees work in a setting where coordination and readiness are crucial. If the work environment is not conducive, employees may struggle to focus. If culture does not encourage innovation and recognition, employees may become routine-oriented. If motivation is not maintained through training and appreciation, employees may not translate their potential into high performance. Thus, employee performance is produced through interaction between workspace, culture, and motivation (Comfort et al., 2004; Alhadi et al., 2024).

The R-square value of 50.6% indicates that the model explains more than half of the variance in employee performance. This is a meaningful explanatory level, but it also leaves 49.4% unexplained. Future studies should examine other determinants such as leadership, competence, job satisfaction, workload, digital capability, organizational commitment, and public service motivation. These factors may further explain performance in disaster management agencies, especially as BPBD functions increasingly require digital reporting, multi-stakeholder coordination, and community-based risk communication (Diamantidis & Chatzoglou, 2019; Marlaini et al., 2025).

Implication

The theoretical implication of this study is that employee performance in disaster management agencies should be analyzed as a product of organizational conditions and individual motivation. The findings support human resource management theory that work environment, organizational culture, and motivation shape performance. The study also shows that motivation is not separate from institutional context, because work environment and organizational culture significantly influence motivation. This provides a useful middle-level explanation for public-sector performance in disaster management institutions (Diamantidis & Chatzoglou, 2019; Frinaldi et al., 2023a).

The practical implication is that BPBD West Sumatra should implement integrated performance improvement. First, the agency should improve the physical and psychosocial work environment by reviewing room layout, reducing concentration disturbances, improving air

circulation and lighting, strengthening office security, and building better cooperation routines among employees. Second, the agency should strengthen organizational culture by encouraging innovation, appreciating new ideas, recognizing target achievement, emphasizing attention to detail, and managing organizational change through clear communication. Third, the agency should strengthen motivation by expanding training opportunities, providing transparent recognition, supporting career development, and giving constructive feedback on performance (Vischer, 2007; Lanin et al., 2023).

For policy implication, the agency should connect human resource policies with disaster management capacity. Employee performance evaluation should not only focus on attendance and administrative completion. It should also include indicators that matter for disaster management, such as coordination readiness, accuracy of information, responsiveness, teamwork, and ability to adapt to changing operational needs. Human resource development should therefore be positioned as part of disaster risk governance (Alhadi et al., 2024; Marlaini et al., 2025).

Conclusion

This study concludes that work environment, organizational culture, and work motivation significantly influence employee performance at BPBD West Sumatra Province. The simultaneous model explains 50.6% of employee performance variance. Partially, work environment has a positive and significant effect on employee performance, organizational culture has a positive and significant effect on employee performance, and work motivation has the strongest direct effect on employee performance. The study also concludes that work environment and organizational culture significantly influence work motivation.

The results show that BPBD West Sumatra has a fairly good level of work environment, organizational culture, work motivation, and employee performance. However, several indicators require attention. Work environment improvement should focus on concentration, security, and cooperation. Organizational culture strengthening should focus on innovation, appreciation for ideas, target-based recognition, attention to detail, and planned change. Motivation strengthening should focus on training opportunities and work independence. Performance improvement should focus on accuracy, higher work output, timeliness, and target achievement.

This study has limitations. It uses a single-agency case, a cross-sectional design, and self-report questionnaire data. The model does not include other possible determinants such as leadership, competence, job satisfaction, workload, organizational commitment, public service motivation, or digital capability. Future research should compare BPBD agencies across districts or provinces, add qualitative interviews to understand organizational culture more deeply, and include additional variables to build a broader model of disaster management workforce performance. For practice, BPBD management should use the findings as a basis for improving workspace quality, strengthening adaptive organizational culture, and developing systematic employee motivation programs (Diamantidis & Chatzoglou, 2019; Ritz et al., 2016).

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