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Beyond Pay and Leadership: The Work Environment as the Dominant Predictor of Employee Performance in a Private Hospital

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ABSTRACT

Employee performance is a critical determinant of hospital service quality. This study examines the association of remuneration policy, leadership effectiveness, and work environment with employee performance at Cakra Husada General Hospital, Klaten. A quantitative, cross-sectional associative design was used, with survey data from 179 employees recruited through consecutive non-probability sampling based on predefined eligibility criteria. The data were analysed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The results indicate that the work environment has a positive and significant effect on employee performance, whereas remuneration policy and leadership effectiveness have no significant partial effects. Together, the three variables explain a moderate proportion of the variance in employee performance. Because the design is cross-sectional and the sample was not randomly drawn, the findings are interpreted as statistical associations and not as proof of causation. The findings suggest that hospital management should prioritise improving physical and psychosocial working conditions, while treating remuneration and leadership as supporting conditions whose influence may operate indirectly.

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INTRODUCTION

Employee performance is a critical determinant of organisational effectiveness, particularly in healthcare institutions where the quality of medical services depends largely on the competence and commitment of healthcare personnel. Understanding the factors that drive employee performance is therefore essential for improving organisational sustainability and service quality (Hasibuan, Ridhaningsih, & Putri, 2023). This study examines whether remuneration policy, leadership effectiveness, and the work environment are associated with employee performance in a Type C private hospital in Indonesia, and whether the conventional assumption that compensation and leadership are the primary drivers of performance holds in this setting.

In an era of globalisation and increasingly fierce competition, organisations must continuously improve human resource performance. Employee performance is one of the key factors determining an organisation's success in achieving its strategic objectives, and this also applies to the healthcare sector, where the quality of service depends heavily on the performance of both medical and non-medical staff (Robbins & Judge, 2025).

Previous studies have examined remuneration, leadership, and the work environment as

determinants of employee performance in hospitals and other service organisations (Suriadi, Adhikara, & Andry, 2022; Herman & Saiful, 2023). In the hospital context, performance issues generally stem from perceptions of unfairness in the remuneration system, poor leadership communication, and a work environment that is not yet fully supportive. Employee performance is defined as the quality and quantity of work an employee achieves in carrying out their duties in accordance with their assigned responsibilities (Robbins & Judge, 2025).

Remuneration policy is theoretically expected to influence performance strongly. Rahman (2025) shows that remuneration has a positive and significant effect on employee performance in a public-sector institution, in line with the view that a fair and competitive reward system can enhance motivation, job satisfaction, and loyalty. Evidence from hospitals, however, is mixed. Suriadi et al. (2022) reported a significant negative direct effect of compensation on nurse performance, whereas Herman and Saiful (2023) found no significant effect of compensation on hospital employee performance. Widiastutik, Rahayu, and Juwita (2022) examined remuneration together with job rotation and treated job satisfaction as a mediating variable, which suggests that the contribution of remuneration is not necessarily direct.

Leadership effectiveness is also regarded as a determining factor, because effective leaders create a clear vision, establish good communication, and encourage employee participation in decision-making (Alfiah & Astutik, 2020; Robbins & Judge, 2025). Recent studies in the health sector, however, are not always consistent with this assumption. Curado and Santos (2022), in a study of 192 non-profit healthcare organisations in Portugal using a structural equation modelling approach, found that transformational leadership had no significant direct effect on the adaptive performance of healthcare staff, and that its effect was fully mediated by job satisfaction. Hasan, Ahmad, and Osman (2023) similarly modelled nurses' job performance with work engagement as a mediator and the work environment as a moderator of the leadership–performance relationship.

The third factor, the work environment, is increasingly studied as a determinant of healthcare workers' performance. A conducive work environment encompasses physical aspects such as facilities, cleanliness, lighting, and safety, as well as harmonious working relationships amongst staff (Marhalinda & Supiandini, 2022). A study of hospital employees in Turkey by Kılıç, Uslukılıç, and Yaman (2023) showed that a worse work environment was associated with a higher level of work limitation, which may in turn reduce service efficiency. Evidence on performance itself is not uniform: Vindu (2024) found no significant direct relationship between the work environment and nurse performance in a hospital in Madiun, whereas Suriadi et al. (2022) reported a significant positive effect.

Cakra Husada General Hospital in Klaten, as a Type C private healthcare institution in Klaten Regency, faces similar challenges. Initial observations and informal interviews with staff indicate a perception of unfairness in the allocation of incentives, sub-optimal communication between management and staff, and a work environment that does not yet fully support a comfortable working atmosphere. This gap between management policy and staff expectations has the potential to affect overall staff performance.

Although remuneration, leadership, and the work environment have been studied extensively, most studies analyse them separately, in non-hospital settings, or report inconsistent results in hospitals. Studies that test the three variables simultaneously in Type C private hospitals in Indonesia remain limited. This article contributes by testing the three variables simultaneously with the PLS-SEM approach in a hospital organisation, and by interpreting non-significant results

theoretically and not only statistically. Its aim is to analyse the association of remuneration policy, leadership effectiveness, and the work environment with employee performance at Cakra Husada General Hospital in Klaten, both individually and jointly, and to formulate the theoretical and managerial implications.

THEORETICAL AND LITERATURE REVIEW

The Theory of Transformational Leadership

Transformational leadership theory posits that effective leaders not only direct work but also inspire, motivate, and drive positive change through four key components: idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration (Robbins & Judge, 2025). In this study, this theory serves as the foundation for explaining the relationship between leadership effectiveness and employee performance. However, recent studies in the healthcare sector indicate that the direct effect of transformational leadership on performance is not always significant and is often mediated by other variables such as job satisfaction or work engagement (Curado & Santos, 2022; Hasan et al., 2023).

Human Resource Management (HRM)

Human Resource Management (HRM) is the science and art of managing the relationships and roles of the workforce to ensure they are effective and efficient in achieving the objectives of the organisation, employees and society; it encompasses recruitment, training, performance appraisal, remuneration, and industrial relations (Armstrong & Taylor, 2023; Robbins & Judge, 2025). Within hospital organisations, HRM plays a strategic role because the quality of service is heavily dependent on the competence and performance of both medical and non-medical staff (Armstrong & Taylor, 2023).

Employee Performance

Employee performance refers to the quality and quantity of work an employee achieves in carrying out their duties in accordance with their assigned responsibilities (Robbins & Judge, 2025), as reflected in work quality, work quantity, punctuality, work effectiveness, and accountability. In healthcare organisations, employee performance is directly related to the quality of care, patient safety, and the institution's competitiveness.

Equity Theory

Adams' (2005) Equity Theory explains that employees evaluate their employment relationships by comparing their contributions with the rewards they receive. If rewards are perceived to be commensurate with contributions, job satisfaction and motivation will arise; conversely, perceived unfairness in rewards can reduce motivation and performance (Armstrong & Taylor, 2023). The theory concerns perceived fairness of the ratio between inputs and outcomes and not the absolute level of pay; remuneration is therefore expected to influence performance mainly when employees perceive it as inequitable. This theory explains the relationship between remuneration policy and employee performance, using indicators such as salary adequacy, incentives, allowances, rewards, and remuneration fairness.

Expectancy Theory

Vroom's Expectancy Theory (Vroom, Porter, & Lawler, 2015) explains that work motivation is influenced by the belief that effort will result in a certain level of performance (expectancy), and that this performance will lead to a valuable reward (instrumentality and valence). This theory complements the conceptual framework by explaining the psychological

processes that link remuneration, leadership, and the work environment to employee motivation and performance. It also implies that pay motivates higher performance only when the link between individual performance and reward is visible to employees.

Job Demands–Resources Perspective

The Job Demands–Resources (JD-R) model proposes that job resources, including supportive physical and social working conditions, foster motivation and engagement and help employees cope with job demands, thereby supporting performance (Bakker & Demerouti, 2017). Hospitals are characterised by shift work, intensive patient interaction, and strict safety requirements; in such settings the work environment functions as a core job resource. This perspective provides a theoretical basis for expecting the work environment to show a stronger direct association with performance than remuneration or leadership, which are more likely to operate as hygiene conditions or through intermediate variables such as job satisfaction and engagement (Armstrong & Taylor, 2023; Curado & Santos, 2022).

Remuneration Policy

A remuneration policy is a system for providing financial and non-financial rewards to employees as a form of recognition for their contributions; it encompasses appropriate pay, incentives, allowances, awards, and remuneration equity. Fair and competitive remuneration is believed to enhance motivation, satisfaction, and work productivity (Armstrong & Taylor, 2023). A study by Widiastutik et al. (2022), which used a PLS-SEM approach, modelled remuneration and job rotation with job satisfaction as a mediating variable, showing that the effect of remuneration is often examined through intermediate mechanisms and not only as a direct determinant.

Leadership Effectiveness

Leadership effectiveness is a leader's ability to provide direction, establish communication, motivate, make decisions, set an example, and supervise subordinates (Robbins & Judge, 2025). Leadership is also associated with employees' work engagement (Schaufeli, 2021). However, the findings of Curado and Santos (2022) in non-profit healthcare organisations suggest that the influence of transformational leadership on adaptive performance is not directly significant but is fully mediated by job satisfaction, indicating that within procedure- and profession-based work systems, the influence of a leader on individual performance may not be dominant.

Work Environment

The work environment encompasses physical conditions (facilities, cleanliness, lighting, safety) and non-physical conditions (interpersonal relationships, communication, organisational culture) that influence work performance (Marhalinda & Supiandini, 2022). A multivariable study of hospital employees in Turkey confirmed that the quality of the work environment is significantly associated with the level of employees' work limitations (Kılıç et al., 2023). Evidence on nurse performance, however, is not uniform (Suriadi et al., 2022; Vindu, 2024).

Previous Research and Hypothesis Development

Previous studies show that results are not consistent across settings. Rahman (2025) reported a positive effect of remuneration on performance in a public-sector institution, whereas hospital studies report a negative effect (Suriadi et al., 2022) or no significant effect (Herman & Saiful, 2023). Leadership is expected to improve performance (Alfiah & Astutik, 2020), but recent healthcare studies indicate that its effect is often weaker or mediated (Curado & Santos, 2022; Hasan et al., 2023). The work environment tends to show a significant association with

performance in hospital studies (Suriadi et al., 2022; Herman & Saiful, 2023), although a null result has also been reported (Vindu, 2024). Given this mixed evidence, the hypotheses below follow the dominant theoretical expectations and are tested empirically:

H1: Remuneration policy has a positive and significant effect on employee performance.

H2: Leadership effectiveness has a positive and significant effect on employee performance.

H3: The work environment has a positive and significant effect on employee performance.

METHOD

Research Design

This study used a quantitative, cross-sectional, associative design based on an online self-administered questionnaire. Each construct was measured with ten indicators (40 indicators in total) on a Likert-type scale. The hypotheses are derived from theory and are worded as effects, but because the predictors and the outcome were measured at the same time from the same respondents, the analysis estimates statistical associations (path coefficients) and does not by itself establish causality.

Population, Sampling Technique, and Sample Size

The study population comprised 374 employees of Cakra Husada General Hospital in Klaten. After excluding 51 non-permanent doctors because of their different employment status, the accessible population consisted of 323 employees. Respondents were included if they were in active employment, had at least one year of service, and were willing to participate.

Participants were recruited using consecutive non-probability sampling. The questionnaire link was distributed online, and eligible employees who responded were included in order of submission until the target sample size was reached. The online questionnaire generated 187 responses (equivalent to 57.9% of the accessible population); the first 179 responses that met the eligibility criteria (55.4% of the accessible population) were analysed, and the remaining eight were not included only because the target sample size had been reached. The eligibility criteria give the procedure a purposive element, but selection within the eligible group depended on response order and on employees' willingness to respond; the sampling is therefore classified as non-probability (consecutive) sampling and not as purposive sampling (Etikan, Musa, & Alkassim, 2016).

The target sample size was determined with Slovin's formula, $n = N / (1 + Ne^2)$, using $N = 323$ and a margin of error $e = 5\%$, which gives 178.7 and was rounded up to 179. Slovin's formula assumes simple random sampling, and its margin of error has a probabilistic meaning only under probability sampling. Because this study used non-probability sampling, the formula is used only as a pragmatic benchmark for the minimum number of responses needed from a finite population, as is common in survey research in Indonesia; the 5% figure is not interpreted as a sampling error and is not used to generalise the results to all employees (Memon et al., 2020).

The adequacy of the sample for PLS-SEM was therefore checked against criteria that do not assume random sampling. First, the 10-times rule requires at least ten times the largest number of structural paths pointing at a construct (three), that is, 30 cases. Second, the inverse square root method (Kock & Hadaya, 2018) indicates a minimum of about 142 cases to detect a path coefficient of about 0.21 and about 222 cases for a coefficient of about 0.17, at 5% significance and 80% power. Third, a power analysis for an F-test of multiple regression with three predictors shows that 179 cases give a power above 0.95 for a medium effect ($f^2 = 0.15$; minimum $n = 77$)

but only about 0.70 for a small effect ($f^2 = 0.05$; minimum $n \approx 222$). The sample is thus adequate for the overall model and for moderate-to-large paths, but may be underpowered for small paths; this is taken into account when interpreting non-significant results.

Table 1. Operational Research Variables

Variables	Dimensions
Remuneration Policy (X1)	Fairness, recognition, well-being, transparency
Leadership Effectiveness (X2)	Communication, motivation, decision-making, leadership by example, supervision
Working Environment (X3)	Physical, safety, social, comfort, organisational culture
Employee Performance (Y)	Quality, quantity, time, effectiveness, accountability

Source: Processed data, 2026

Data Analysis

The data were analysed using descriptive analysis and inferential analysis based on PLS-SEM with SmartPLS 4, because the model contains latent constructs measured by multiple indicators, the objective is prediction-oriented, and the method does not require the data to be normally distributed (Hair, Risher, Sarstedt, & Ringle, 2019). The outer model was evaluated through indicator reliability (outer loadings), internal consistency (Cronbach's alpha, rho_A, and composite reliability), convergent validity (Average Variance Extracted, AVE), and discriminant validity using the heterotrait–monotrait ratio (HTMT) with a threshold of 0.85 (Henseler, Ringle, & Sarstedt, 2015). The inner model was evaluated through collinearity (VIF, threshold 3.0), the coefficient of determination (R^2 and adjusted R^2), and out-of-sample predictive relevance (Q^2_predict and RMSE) (Shmueli et al., 2019). Hypotheses were tested with a bootstrapping procedure using 5,000 resamples and a two-tailed criterion of T-statistic > 1.96 and P-value < 0.05, complemented by 95% percentile confidence intervals.

RESULTS AND DISCUSSION

Characteristics of Respondents

Table 2 presents the characteristics of the 179 respondents. Most respondents were female (73.18%), aged 31–40 years (41.34%), worked in nursing units (62.01%), and held executive or operational staff positions (87.15%). This composition reflects the hospital's workforce, which is dominated by staff providing direct patient care. Because the respondents were not randomly selected, this profile describes the analysed sample and does not by itself show that the sample is statistically representative of all employees.

Table 2. Characteristics of Respondents (n = 179)

Characteristic	Category	n	%
Gender	Female	131	73.18
	Male	48	26.82
Age	≤ 30 years	52	29.05
	31–40 years	74	41.34
	41–50 years	43	24.02
	> 50 years	10	5.59
Work unit	Nurse	111	62.01
	Midwife	15	8.38
	Other Healthcare Professionals	31	17.32
	Non-medis	22	12.29
Position	Executive/operational staff	156	87.15
	Other positions	23	12.85

Source: Processed data, 2026. Percentages are based on n = 179; "Other" categories are the remainder of the sample.

Descriptive Analysis of Variables

The descriptive analysis results show the mean values for each variable, as presented in Table 3.

Table 3. Descriptive Statistics of the Research Variables

Variables	Mean	Category
Remuneration Policy (X1)	3.37	Moderate
Leadership Effectiveness (X2)	3.77	High
Working Environment (X3)	3.91	High
Employee Performance (Y)	4.04	High

Source: Processed data, 2026

Remuneration policy falls into the 'moderate' category (mean 3.37), indicating room to improve compensation fairness and transparency. Leadership effectiveness (mean 3.77) and the work environment (mean 3.91) fall into the high category, while employee performance is also in the high category, with the highest mean (4.04), indicating that, in general, employees have been performing in line with the organisation's standards.

Outer Model

The evaluation of the reflective measurement model (outer model) was conducted using 40 observed indicators representing four research constructs: remuneration, leadership, work environment, and employee performance. The assessment focused on indicator reliability, internal consistency reliability, convergent validity, discriminant validity, and potential multicollinearity among the predictor constructs. The analysis was performed using SmartPLS 4 based on data collected from 179 respondents.

The findings (Table 4) indicate that 37 out of 40 indicators achieved outer loading values above 0.70. Although three remuneration indicators recorded slightly lower values, their retention is methodologically defensible because the construct-level reliability and convergent validity criteria were satisfied. Therefore, the measurement model demonstrates an adequate level of indicator reliability and provides a sound basis for subsequent structural model assessment.

Table 4. Outer Loadings For All Study Indicators

Construct	Indicator	Loading
Remuneration	KR1.1	0.715
Remuneration	KR1.2	0.687
Remuneration	KR1.3	0.723
Remuneration	KR1.4	0.789
Remuneration	KR1.5	0.814
Remuneration	KR1.6	0.735
Remuneration	KR1.7	0.722
Remuneration	KR1.8	0.784
Remuneration	KR1.9	0.671
Remuneration	KR1.10	0.696
Leadership	EK2.1	0.866
Leadership	EK2.2	0.880
Leadership	EK2.3	0.881
Leadership	EK2.4	0.900
Leadership	EK2.5	0.883
Leadership	EK2.6	0.787
Leadership	EK2.7	0.914
Leadership	EK2.8	0.907
Leadership	EK2.9	0.931
Leadership	EK2.10	0.908

Construct	Indicator	Loading
Work environment	LK3.1	0.793
Work environment	LK3.2	0.796
Work environment	LK3.3	0.839
Work environment	LK3.4	0.806
Work environment	LK3.5	0.828
Work environment	LK3.6	0.857
Work environment	LK3.7	0.865
Work environment	LK3.8	0.917
Work environment	LK3.9	0.873
Work environment	LK3.10	0.898
Performance	KK4.1	0.879
Performance	KK4.2	0.903
Performance	KK4.3	0.904
Performance	KK4.4	0.904
Performance	KK4.5	0.907
Performance	KK4.6	0.915
Performance	KK4.7	0.918
Performance	KK4.8	0.922
Performance	KK4.9	0.871
Performance	KK4.10	0.859

Source: Original SmartPLS 4 PLS Algorithm export; 179 respondents.

As presented in Table 4, the outer loading results indicate that the majority of the 40 indicators achieved values above the recommended threshold of 0.70, suggesting that the indicators adequately represent their respective latent constructs. Specifically, the remuneration construct demonstrates outer loading values ranging from 0.671 to 0.814. Three indicators, namely KR1.2 (0.687), KR1.9 (0.671), and KR1.10 (0.696), recorded values slightly below the recommended threshold. Nevertheless, these indicators were retained because they contribute to the conceptual coverage of the remuneration construct, while the overall average variance extracted (AVE) and internal consistency reliability remain within acceptable limits.

The leadership construct exhibits relatively strong indicator loadings, ranging from 0.787 to 0.931. All ten indicators exceed the recommended threshold, demonstrating that they provide adequate explanatory contributions to the measurement of leadership. Similarly, the work environment construct records outer loading values between 0.793 and 0.917, indicating satisfactory indicator reliability across all ten measurement items.

The employee performance construct demonstrates the strongest overall measurement performance, with outer loading values ranging from 0.859 to 0.922. All ten indicators exceed the recommended threshold, suggesting that the selected items consistently represent the underlying employee performance construct.

The results of the assessment of internal consistency and convergent validity, using Cronbach's alpha, rho_A, composite reliability (rho_C) and average variance extracted (AVE), are presented in Table 5. These measures were used to evaluate the consistency of the indicators within each construct and the extent to which these constructs explain the variance of their respective indicators.

Table 5. Construct Reliability And Convergent Validity

Construct	Alpha	rho_A	rho_C	AVE
Remuneration	0.915	0.965	0.921	0.540
Leadership	0.970	0.973	0.973	0.786
Work environment	0.957	0.963	0.962	0.719
Performance	0.973	0.974	0.977	0.807

Source: Original SmartPLS 4 PLS Algorithm export.

Table 5 presents the remuneration construct records a Cronbach's alpha value of 0.915, rho_A of 0.965, composite reliability of 0.921, and AVE of 0.540. These results demonstrate satisfactory internal consistency reliability, as both Cronbach's alpha and composite reliability exceed the recommended threshold of 0.70. Furthermore, the AVE value of 0.540 exceeds the minimum acceptable criterion of 0.50, indicating that remuneration explains approximately 54.0% of the variance in its indicators. This finding supports the convergent validity of the remuneration construct, despite the presence of three indicators with outer loadings slightly below 0.70.

The leadership construct demonstrates particularly strong measurement properties, with Cronbach's alpha of 0.970, rho_A of 0.973, composite reliability of 0.973, and AVE of 0.786. These values indicate a high degree of internal consistency and convergent validity. The AVE result suggests that leadership accounts for approximately 78.6% of the variance in its associated indicators, reflecting a strong relationship between the latent construct and its measurement items.

Similarly, the work environment construct achieves Cronbach's alpha of 0.957, rho_A of 0.963, composite reliability of 0.962, and AVE of 0.719. These findings confirm that the indicators consistently measure the work environment construct. The AVE value further indicates that approximately 71.9% of the variance in the indicators is explained by the underlying construct.

The employee performance construct records the highest reliability and convergent validity results among the four constructs, with Cronbach's alpha of 0.973, rho_A of 0.974, composite reliability of 0.977, and AVE of 0.807. These results indicate excellent internal consistency and demonstrate that employee performance explains approximately 80.7% of the variance in its measurement indicators.

Taken together, all four constructs satisfy the recommended criteria for internal consistency reliability and convergent validity. Cronbach's alpha values range from 0.915 to 0.973, composite reliability values range from 0.921 to 0.977, and AVE values range from 0.540 to 0.807. Consequently, the measurement model demonstrates satisfactory reliability and convergent validity, indicating that the observed indicators adequately represent their corresponding latent constructs.

The results of discriminant validity assessment using the heterotrait–monotrait ratio (HTMT) are presented in Table 6. This assessment determines whether each construct is empirically distinct from the other constructs included in the research model. The HTMT criterion of 0.85 was applied as the reference threshold for evaluating discriminant validity.

Table 6. Heterotrait–Monotrait Ratio (HTMT) Matrix

Construct	KR	EK	LK	KK
KR	—	—	—	—
EK	0.598	—	—	—
LK	0.645	0.796	—	—
KK	0.293	0.588	0.709	—

KR = Remuneration; EK = Leadership; LK = Work environment; KK = Employee performance.

The results indicate that the HTMT value between remuneration and leadership is 0.598, suggesting that these two constructs possess adequate empirical distinction. The relationship between remuneration and work environment produces an HTMT value of 0.645, while the relationship between remuneration and employee performance records the lowest HTMT value of 0.293. These findings indicate that remuneration is sufficiently distinguishable from the other three constructs.

Furthermore, the HTMT value between leadership and work environment is 0.796, representing the highest value in the matrix. Although this value indicates a relatively strong association between the two constructs, it remains below the recommended threshold of 0.85. This suggests that leadership and work environment maintain adequate discriminant validity and measure conceptually distinct aspects of the organizational context. The HTMT value between leadership and employee performance is 0.588, while the relationship between work environment and employee performance records a value of 0.709. Both values remain below the specified threshold, confirming that employee performance is empirically distinguishable from the leadership and work environment constructs.

Overall, all six HTMT values range from 0.293 to 0.796, remaining below the recommended threshold of 0.85. These results provide evidence that the four research constructs demonstrate satisfactory discriminant validity. Therefore, remuneration, leadership, work environment, and employee performance can be considered empirically distinct constructs within the proposed measurement model.

Table 7 presents the inner-model variance inflation factor (VIF) values for the three predictor constructs influencing employee performance, namely leadership, remuneration, and work environment. The assessment was conducted to identify potential multicollinearity problems that could affect the stability and interpretation of the estimated structural relationships.

Table 7. Inner-Model Variance Inflation Factors

Predictor → Employee performance	VIF
Leadership	2.453
Remuneration	1.745
Work environment	2.774

Source: Original SmartPLS 4 PLS Algorithm export.

The results indicate that leadership has a VIF value of 2.453, remuneration records a VIF value of 1.745, and work environment achieves a VIF value of 2.774. All three values remain below the commonly applied threshold of 3.0, indicating that multicollinearity does not represent a serious concern in the structural model. Among the three predictor constructs, work environment exhibits the highest VIF value of 2.774, followed by leadership at 2.453. Although these values suggest some degree of correlation among the predictor variables, the correlations are not sufficiently high to create substantial multicollinearity concerns. Remuneration records the lowest VIF value of 1.745, indicating the lowest level of collinearity among the three predictors.

These findings suggest that remuneration, leadership, and work environment can be simultaneously included as independent variables in explaining employee performance without creating serious estimation problems associated with multicollinearity. Consequently, the structural model is considered appropriate for further evaluation of the hypothesized relationships among the research constructs.

Evaluation of Structural Models

The structural model was evaluated to determine its explanatory power and predictive relevance in explaining employee performance. Two complementary assessment procedures were employed: the coefficient of determination (R^2) as presented in Table 8 and the out-of-sample predictive assessment using Q^2_predict and root mean square error (RMSE) are presented in Table 9.

Table 8. Explanatory Power Of The Endogenous Construct

Endogenous construct	R^2	Adjusted R^2
Employee performance	0.518	0.510

Source: Original SmartPLS 4 PLS Algorithm export.

As presented in Table 8, the structural model produces an R^2 value of 0.518 for employee performance, with an adjusted R^2 value of 0.510. These results indicate that remuneration policy, leadership effectiveness, and work environment collectively explain 51.8% of the variance in employee performance. This is generally interpreted as a moderate level of explanatory power (Hair et al., 2019). Meanwhile, the remaining 48.2% is attributable to other factors outside the scope of the proposed research model, including potentially individual characteristics, organizational culture, work motivation, employee competencies, job satisfaction, and other organizational factors that were not incorporated into the analysis.

The adjusted R^2 value of 0.510 indicates that the model retains an explanatory capacity of 51.0% after accounting for the number of predictors included in the structural model. The relatively small difference between the R^2 and adjusted R^2 values (0.008) suggests that the explanatory power remains relatively stable after adjustment for model complexity. This finding indicates that the inclusion of the three independent variables provides a meaningful contribution to explaining variations in employee performance without substantially inflating the model's explanatory capacity.

In addition to assessing explanatory power, the predictive relevance of the structural model was evaluated using the Q^2_predict procedure. This assessment provides an indication of whether the proposed PLS-SEM model can predict observations beyond those used to estimate the model. Because SmartPLS 4 no longer implements the conventional blindfolding algorithm, predictive relevance was assessed independently using repeated 10-fold cross-validation. The procedure involved 179 original survey observations, 10 cross-validation folds, and 10 repetitions, with a random seed of 2026. The Q^2_predict values were calculated for all ten indicators of employee performance. The results are presented in Table 9.

Table 9. Out-Of-Sample Predictive Relevance (Q^2_Predict)

Indicator	Q^2_predict	PLS RMSE	Mean RMSE	LM RMSE
KK4.1	0.333	0.571	0.700	0.540
KK4.2	0.325	0.545	0.663	0.535
KK4.3	0.387	0.516	0.658	0.538
KK4.4	0.306	0.597	0.717	0.579
KK4.5	0.366	0.548	0.688	0.573
KK4.6	0.394	0.502	0.645	0.520
KK4.7	0.424	0.515	0.679	0.537
KK4.8	0.455	0.517	0.701	0.559
KK4.9	0.422	0.526	0.691	0.493
KK4.10	0.335	0.575	0.705	0.584

Source: Independently calculated from 179 original survey observations using PLS path-weighting, 10-fold cross-validation, 10 repetitions, random seed = 2026; not exported directly from SmartPLS. Q^2_predict is distinct from blindfolding Q^2.

Table 9 presents the out-of-sample predictive performance of the structural model across ten employee-performance indicators. The results show that all Q^2_predict values are positive, ranging from 0.306 to 0.455. This finding indicates that the PLS-SEM model demonstrates predictive relevance for all indicators because its prediction errors are lower than those obtained using the mean-based benchmark.

Among the ten indicators, KK4.8 records the highest Q^2_predict value of 0.455, followed by KK4.7 at 0.424 and KK4.9 at 0.422. These findings suggest that the model provides relatively stronger predictive relevance for these three indicators compared with the other employee-performance indicators. Conversely, KK4.4 records the lowest Q^2_predict value of 0.306, followed by KK4.2 at 0.325. Nevertheless, their positive values indicate that the model retains predictive relevance across all measured dimensions of employee performance.

The RMSE results provide additional information regarding the model's predictive accuracy. The PLS model produces RMSE values ranging from 0.502 to 0.597, while the mean-based benchmark generates higher RMSE values, ranging from 0.645 to 0.717. This comparison demonstrates that the PLS model consistently outperforms the mean-based benchmark across all ten indicators. In other words, incorporating the relationships among remuneration policy, leadership effectiveness, work environment, and employee performance improves prediction compared with relying exclusively on the mean of the observed values.

Hypothesis Testing

Table 10 presents the original SmartPLS bootstrapping results based on 5,000 bootstrap samples. Percentile confidence intervals at the 95% level included zero for remuneration and leadership effectiveness but excluded zero for the work environment.

Table 10. Results of the Hypothesis Testing (Bootstrapping)

Relationships Between Variables	Path Coefficient	T-Statistic	P-Value	Decision
Remuneration Policy → Employee Performance	-0.209	1.882	0.060	Not supported
Leadership Effectiveness → Employee Performance	0.167	1.309	0.191	Not supported
Working Environment → Employee Performance	0.704	5.796	<0.001	Supported

Source: Processed data, 2026

The first hypothesis examines the effect of remuneration policy on employee performance. The path coefficient is negative (−0.209), with a t-statistic of 1.882 and a p-value of 0.060. Because the p-value exceeds the 0.05 threshold and the 95% confidence interval includes zero, the relationship is not statistically significant and H1 is not supported. The p-value is close to the threshold, so the result is better described as inconclusive than as evidence of no relationship, and the negative sign, which runs against the theoretical expectation, should not be read as evidence that higher remuneration lowers performance (see the Discussion).

The second hypothesis investigates the effect of leadership effectiveness on employee performance. The path coefficient is positive (0.167), with a t-statistic of 1.309 and a p-value of 0.191. As the p-value is greater than 0.05 and the confidence interval includes zero, the relationship is not statistically significant and H2 is not supported. The positive sign indicates a positive estimated relationship, but the evidence is insufficient to conclude that leadership effectiveness significantly influences employee performance.

The third hypothesis assesses the effect of the work environment on employee performance. The path coefficient is positive (0.704), with a t-statistic of 5.796 and a p-value below 0.001. The relationship is statistically significant and the confidence interval excludes zero; H3 is therefore supported. A more supportive work environment is positively and significantly associated with higher employee performance.

Overall, the work environment is the only variable with a positive and statistically significant

path to employee performance, while remuneration policy and leadership effectiveness do not show statistically significant partial effects in this model.

Discussion

Remuneration Policy and Employee Performance

H1 is not supported: the path from remuneration policy to employee performance is negative but not significant (β = −0.209; t = 1.882; p = 0.060). This differs from classical compensation theory, which expects a good reward system to enhance motivation and performance (Armstrong & Taylor, 2023; Robbins & Judge, 2025), and from studies reporting a positive effect of remuneration (Rahman, 2025). It is, however, consistent with hospital studies that found no significant effect of compensation (Herman & Saiful, 2023) or even a negative direct effect (Suriadi et al., 2022).

Several theoretical explanations are plausible. First, Equity Theory concerns perceived fairness and not the level of pay. Remuneration obtained the lowest mean score (3.37, moderate), whereas employee performance obtained the highest (4.04), which suggests that performance is sustained despite only moderate satisfaction with remuneration. In a setting where 62.01% of respondents work in nursing units governed by standard operating procedures (SOPs) and professional codes of ethics, performance is likely to be anchored in professional responsibility and patient safety and not in the pay received. Second, in the two-factor perspective discussed by Armstrong and Taylor (2023), pay acts mainly as a hygiene factor: it prevents dissatisfaction but does not by itself motivate higher performance. Third, Expectancy Theory implies that pay motivates performance only when individual performance is visibly linked to rewards (instrumentality); where salary is set by grade and incentives are shared or allocated in ways staff perceive as unclear, which was reported in the initial interviews, this link is weak. This explanation was not tested here because instrumentality was not measured.

Statistical explanations should also be considered. The p-value is close to the 5% threshold and the sample may be underpowered for small paths (see Method), so the result is inconclusive and should not be treated as proof that remuneration is irrelevant. Remuneration varies little within a single hospital with a common pay structure, and such restricted variance reduces the ability to detect an effect. The association between remuneration and performance is weak (HTMT = 0.293) whereas remuneration shares variance with the work environment (HTMT = 0.645); when the work environment is held constant, the partial path can therefore be close to zero or slightly negative, a pattern similar to statistical suppression. Because the VIF of remuneration is low (1.745), this is not a serious collinearity problem, but the latent variable correlation matrix should be reported to check this interpretation.

Leadership Effectiveness and Employee Performance

H2 is not supported: leadership effectiveness has a positive but non-significant path to employee performance (β = 0.167; t = 1.309; p = 0.191). This differs from the direct effect predicted by transformational leadership theory (Robbins & Judge, 2025), but agrees with healthcare studies in which the effect of leadership is mediated by job satisfaction (Curado & Santos, 2022) or depends on work engagement and the work environment (Hasan et al., 2023).

Three explanations are theoretically grounded. First, the influence of leadership may be indirect. Leadership effectiveness in this study covers communication, motivation, decision-making, leadership by example, and supervision; these practices shape the social relations and organisational culture that are themselves part of the work environment construct. The high HTMT

between leadership and the work environment (0.796) and the VIF of 2.453 indicate substantial shared variance, so the effect of leadership may be channelled through the work environment and, as the literature suggests, through satisfaction and engagement (Schaufeli, 2021). The model estimates only direct paths and cannot test this mediation. Second, in profession- and SOP-based work systems, task standards and professional norms partly substitute for direct supervision, which reduces the leader's discretionary influence on individual performance. Because 87.15% of respondents were frontline staff who interact more with ward managers than with senior management, it is also unclear whether they evaluated their direct supervisor or the hospital's top leadership; this is a measurement limitation. Third, the estimate is small ($\beta = 0.167$) and, with 179 cases, below the sample size indicated for detecting a coefficient of this size with 80% power (about 222 cases), so a modest true effect cannot be excluded.

Work Environment and Employee Performance

H3 is supported: the work environment has a positive and significant path to employee performance ($\beta = 0.704$; $t = 5.796$; $p < 0.001$) and is the strongest predictor in the model. This is consistent with the JD-R perspective, in which supportive physical and social working conditions are job resources that sustain motivation and performance (Bakker & Demerouti, 2017), and with hospital evidence linking a worse work environment to greater work limitation (Kılıç et al., 2023) and a positive work environment effect on nurse performance (Suriadi et al., 2022). Nursing staff, who made up 62.01% of respondents, work in 24-hour shifts with intensive patient contact, so workspace comfort, safety, staff relationships, and organisational culture are integral to daily task execution.

The finding is not uniform across studies: Vindu (2024) reported no significant direct relationship between the work environment and nurse performance in another hospital, which indicates that the effect depends on context, measurement, and possibly on mediators such as organisational commitment. The size of the coefficient (0.704) is also unusually large for behavioural research and should be interpreted cautiously. Because the work environment and performance were rated by the same respondents on the same instrument at the same time, common method variance and a halo effect are possible: employees who evaluate their workplace favourably may also rate their own performance favourably (Podsakoff, MacKenzie, & Podsakoff, 2012). The high mean performance score (4.04) also suggests possible leniency or social desirability. The acceptable HTMT between the two constructs (0.709) supports their empirical distinctiveness but does not remove this risk. The word "dominant" in the title thus refers to the relative size of the path in this model and sample, not to proven causal dominance.

Interpreting Non-Significant Results and Causal Inference

A non-significant path is not evidence that a variable has no effect. It indicates that, in this sample and model, the data do not allow the effect to be distinguished from zero. For remuneration and leadership the 95% confidence intervals include zero, the p-value for remuneration is close to the threshold, the power for small effects is limited, and the possibility of indirect effects was not modelled. These results should not be interpreted as showing that remuneration or leadership are unimportant for hospital management; they show that, within this model, neither has a demonstrable direct association with performance once the work environment is considered.

Causal conclusions are limited for four reasons. The design is cross-sectional, so temporal precedence cannot be established, and reverse or reciprocal relationships are plausible (for example, high-performing employees may perceive and shape their environment more positively).

All variables were self-reported by the same respondents, which exposes the results to common method variance. Unmeasured variables such as job satisfaction, work motivation, work engagement, and organisational commitment, which prior studies identify as mediators (Curado & Santos, 2022; Hasan et al., 2023; Vindu, 2024), may account for part of the observed paths; the three predictors explain 51.8% of the variance in performance, leaving 48.2% unexplained. Finally, non-probability sampling and a single hospital limit generalisation. The path coefficients are therefore best read as strong statistical associations consistent with the proposed theory and not as causal effect sizes.

Explanatory Power of the Combined Model

The three predictors together explain 51.8% of the variance in employee performance (R^2 = 0.518; adjusted R^2 = 0.510), a moderate level of explanatory power (Hair et al., 2019). This describes the explanatory ability of the specified model and is not a test of a separate simultaneous-effect hypothesis; the former H4 was therefore removed from the confirmatory hypotheses. Among the individual paths, only the work environment is statistically significant, but this does not imply that remuneration and leadership lack managerial importance.

Theoretical Implications

The findings suggest boundary conditions for classical theories. In a professional, SOP-regulated hospital setting with a common pay structure, remuneration (Equity and Expectancy Theory) and leadership (transformational leadership theory) did not show direct associations with performance, whereas the work environment, a job resource in the JD-R model, did. This supports a human-centred view of HRM that treats working conditions and employee experience as primary conditions for productivity, and it points to research designs in which leadership and remuneration act through the work environment, job satisfaction, and engagement and not only directly. This conclusion applies to a Type C private hospital and should not be generalised to other settings without further evidence.

Managerial Implications

The results suggest that, within this hospital, improving the work environment is the most promising lever for performance, although cost-effectiveness was not assessed. The following actions are proposed for the management of Cakra Husada General Hospital and similar hospitals.

Audit and improve physical conditions. Use the ten work environment indicators as an audit checklist, report the scores for each ward and unit, and prioritise the units with the lowest scores. Typical actions include improving lighting, ventilation and temperature, workspace layout, rest areas for shift staff, and safety equipment, with a budget, a responsible person, and a deadline for each action. Management can set a target for the work environment score and monitor it in an annual survey.

Strengthen safety and workload management. Review nurse-to-patient ratios and shift schedules, run an occupational health and safety programme, and use a non-punitive incident-reporting system so that staff feel psychologically safe to report problems.

Improve psychosocial conditions. Introduce structured handover and inter-professional communication routines, short monthly feedback meetings in each unit, a channel for resolving conflicts, and regular recognition of good practice, so that relationships and culture in the unit are actively managed.

Use leadership development to build the work environment. Focus leadership training on ward managers and unit heads, who shape the daily climate of the unit, in coaching, two-way

communication, and participatory scheduling, and include unit climate indicators in leaders' performance evaluation. In this way leadership is treated as an enabler of the work environment and not as a separate target.

Keep remuneration fair and transparent. Because remuneration obtained the lowest mean score, management should publish the criteria and calculation of incentives, provide a grievance channel, and, where budget allows, link part of the incentive to unit-level quality and safety indicators so that the link between performance and reward becomes visible. Management should not expect large performance gains from higher pay alone.

Evaluate before scaling up. Because the findings are associational, management should pilot the work environment programme in two or three units, compare them with comparable units without the programme, and expand it only if performance indicators improve.

CONCLUSION

The analysis of 179 employees at Cakra Husada General Hospital in Klaten shows that remuneration policy does not have a statistically significant effect on employee performance (path coefficient = −0.209; P-value = 0.060), and leadership effectiveness does not have a statistically significant effect either (path coefficient = 0.167; P-value = 0.191). These results are inconclusive and not evidence of no effect: the confidence intervals include zero, the sample may be underpowered for small paths, and the effects may operate indirectly, for example through the work environment, job satisfaction, or engagement, which the model did not test.

In contrast, the work environment has a positive and significant effect on employee performance (path coefficient = 0.704; P-value < 0.001) and is the strongest predictor in the model. Collectively, the three variables explain 51.8% of the variance in employee performance (R^2 = 0.518; adjusted R^2 = 0.510), a moderate level of explanatory power.

These findings contribute to HRM in the healthcare sector by showing that, in a professional, SOP-regulated Type C private hospital, a human-centred approach that focuses on the quality of the work environment is more strongly associated with performance than remuneration or leadership alone. In practical terms, hospital management is advised to prioritise improving the work environment, including workplace comfort, facilities, safety, staff relations, and organisational culture, through the audit, safety, psychosocial, leadership-development, and pilot-evaluation steps described above, while continuing to maintain a fair and transparent remuneration system and to develop participatory leadership at the unit level.

This study has several limitations. It covers a single Type C private hospital and used non-probability sampling, so the results should be generalised with caution. The cross-sectional, single-source, self-reported design limits causal inference and is exposed to common method variance, and the sample was adequate for the overall model but may have been underpowered for small paths. Future research should use larger and probability-based samples from several hospitals of different types and ownership structures, longitudinal or multi-source designs with objective performance indicators, and models that include mediating variables such as job satisfaction, work motivation, work engagement, and organisational commitment, including the possibility that leadership and remuneration act through the work environment.

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