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BOOSTING HUMAN RESOURCE QUALITY IN INDONESIAN HIGHER EDUCATION: A GLOBAL AND NATIONAL IMPERATIVE

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ABSTRACT

Educational staff are crucial to the operation of higher education institutions in Indonesia. Cultivating professional competence, creating a supportive organizational climate, and providing consistent managerial backing are core Human Resources (HR) priorities. The study's critical question is how these three factors jointly influence educational staff performance, and what their relative contribution is. The research is grounded in the Educational Human Resource Management Theory (emphasizing individual capabilities) and the Organizational Support Theory (highlighting the supportive work environment). The study employed an ex-post-facto quantitative design. Simple linear regression was used to test the individual and simultaneous impacts of the three independent variables (competency development, organizational climate, and management support). The results showed that all three variables (competency development, organizational climate, and management support) had a positive and significant impact on performance. Furthermore, these variables collectively explained 52.3% of the variance in employee performance (R2=0.523). The findings demonstrate the need for an integrated approach to improving human resources in Indonesian higher education.

KEYWORDS: Competency Development, Organizational Climate, Management Support, Employee Performance, Human Resource Management.

1. INTRODUCTION

The dynamics of global higher education necessitate continuous quality improvement for institutions to remain competitive and meet the expectations of diverse stakeholders, including students, industry, and the government (Wahidah et al., 2024). Digitalization, academic mobility, and cross-border collaboration are universally recognized as key pillars strengthening the role of universities as agents of innovation and sustainable development (UNESCO, 2016). This global context pressures Indonesian universities to adopt proven best practices from developed nations while adapting them sensitively to the unique local environment.

The Indonesian government has responded through a series of strategic national programs aimed at fortifying curricula, enhancing educator competency, and expanding educational infrastructure (Mardeli et al., 2023). These strategic programs align directly with the United Nations' Sustainable Development Goal 4 (SDG-4), which targets improvements in higher education quality, research, and innovation participation (UNESCO, 2016). However, achieving these ambitious goals is inextricably linked to the quality of Human Resource (HR) management, which serves as the primary engine driving the institution's vision and mission (Siregar et al., 2023).

1.1. The Challenge of Competency Gaps and Performance Deficits

The quality of HR performance, particularly among academic and non-academic staff, is a critical success factor. Empirically, a mismatch between employee performance and user expectations can lead to dissatisfaction, ultimately damaging the institution's reputation and accreditation status (Sarastika et al., 2024). This phenomenon is acutely relevant in the Asia-Pacific region, where student satisfaction indices are highly sensitive to staff competence and professionalism (Altbach, 2016). To address this, the Indonesian government has implemented strict regulations, such as BKN Regulation No. 26/2019, which mandates that Civil Servants (ASN) meet managerial and socio-cultural competency standards (2019). These standards are intended to improve operational efficiency and strengthen institutional accountability (Al Hakim, 2022).

However, empirical data points to a significant deficit in the practical implementation of these mandates. Data from the Regional Civil Service Agency (PPID BKD, 2024) indicates that the average number of classical training hours received by ASN in one central province falls critically below the international standard of 40 minimum training hours per year recommended by organizations like the OECD (2021). This limitation hinders competency renewal, directly reducing the quality of teaching, research, and community service (Lalaeng et al., 2024). Both domestic and global studies consistently confirm that investment in faculty competency development is a robust predictor of increased international publications, global rankings, and student satisfaction (Groenewald et al., 2024).

1.2. Theoretical Framework and Identification of the Research Gap

This study adopts the competency framework based on Spencer & Spencer (1993), defining competencies as fundamental individual characteristics that predict superior performance. This approach is highly relevant, as competency in the rapidly changing academic environment must be adaptive, encompassing technical, interpersonal, and socio-cultural dimensions (Marnisah et al., 2022). Furthermore, in the era of the digital revolution, digital competency has become an imperative for institutional competitiveness. Leading universities in Europe and North America have integrated this competency for both academic and administrative staff (Tan & Olaore, 2022), supported by Indonesia's own National Digital Transformation (TDN) agenda (Permendikbudristek, 2023).

Despite these policies, the performance gap persists; the 2024 National Civil Service Agency's Key Performance Index (IKU-12) only achieved 69.26% of its 85% target (Hantono & Wijaya, 2025). This shortfall underscores the urgent need to adopt data-driven performance management systems (e-Performance), which have proven effective in major European universities (Safary et al., 2023).

While the literature confirms the direct link between competency and performance, the role of contextual factors that mediate or moderate this relationship, especially within the unique ecosystem of Indonesian higher education, remains underexplored. Specifically:

1. Organizational Climate: A positive work environment characterized by trust, open communication, and developmental opportunities is expected to enhance employees' motivation to utilize acquired competencies. However, empirical models testing the role of organizational climate as an antecedent or moderator of performance in Indonesian universities are scarce.
2. Management Support: Leadership's provision

of resources, recognition, and structural support is a critical prerequisite for translating competency development into superior performance. A lack of management support can render training programs ineffective.

The primary research gap addressed by this study lies in the scarcity of an integrated model that simultaneously analyzes the interplay of these three crucial factors competency development, organizational climate, and management support on employee performance within Indonesian higher education institutions.

Based on both internal needs and global strategic imperatives, this research aims to empirically test an integrated model explaining how competency development, organizational climate, and management support, both partially and simultaneously, influence employee performance in Indonesian higher education.

The findings of this study are expected to make a dual contribution:

1. Theoretical Contribution: Providing a richer conceptual model that integrates contextual factors (climate and management support) within the Spencer & Spencer (1993) framework in a Southeast Asian academic setting.
2. Practical Contribution: Delivering data-driven recommendations for HR policy formulation, aligning training programs with OECD standards, and implementing effective e-Performance systems to boost university accountability and competitiveness on the global map.

Based on the literature review and conceptual framework, the following hypotheses are proposed:

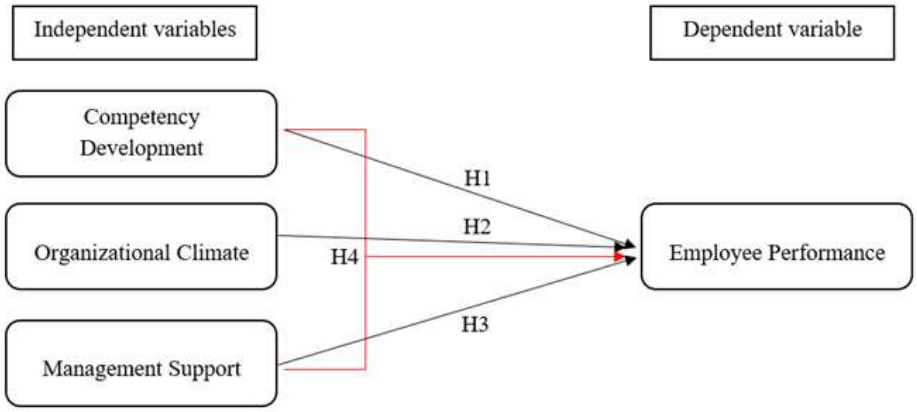

Figure 1: Research Hypotheses.

- **Hypothesis 1:** Competency development positively and significantly affects employee performance.
- **Hypothesis 2:** Organizational climate positively and significantly affects employee performance.
- **Hypothesis 3:** Management support positively and significantly affects employee performance.
- **Hypothesis 4:** Competency development, organizational climate, and management support simultaneously positively and significantly affect employee performance.

2. LITERATURE REVIEW

2.1. Human Resource Management (HRM) In the Global Higher Education Context

Human Resource Management (HRM) constitutes an organized set of managerial functions namely planning, organizing, leading, and controlling integrated with the strategic conceptualization of human capital as the primary organizational strength (Mukminin et al., 2019). Strategic HRM encompasses critical activities such as recruitment, selection, competency development, maintenance, and workforce utilization, all aimed at achieving synergistic individual and organizational goals (Siagian, 2023). Key policies, including position placement, procurement, compensation, and performance evaluation, form the backbone of these practices (Mukminin et al., 2019). Robbins & Judge (2024) and Dessler (2020) compellingly argue that effective HRM practices are fundamental to shaping a favourable organizational climate that fosters employee motivation, job satisfaction, and ultimately, superior performance.

In the academic sector, HRM is a strategic process that extends beyond routine administration. It systematically governs the recruitment and placement of both academic and non-academic staff, prioritizes continuous competency development through training, manages equitable compensation,

and employs rigorous performance evaluations to ensure the realization of the institution's vision (Dessler, 2020). The primary objective is the optimal acquisition, retention, and development of a quality workforce (Fachrurazi et al., 2021) while efficiently managing employment roles and relationships (Fachrurazi et al., 2021). The Perceived Organizational Support (POS) theory underscores the significance of felt managerial support, demonstrating its positive influence on employee motivation and performance, thereby positioning managerial backing as a critical success factor for a supportive work environment (Eisenberger et al., 2020).

The core aims of HRM are securing and retaining competent employees, enhancing individual capacity, and developing high-performance work systems through stringent selection, performance-based compensation, and relevant training (Rizki, 2024) necessitate specialized skills from HR managers (Kehoe & Han, 2020). Crucially, Kehoe & Han (2020) advocate for strengthening the roles of line managers within organizational support systems, emphasizing their contribution in identifying individual needs, adopting diverse HRM practices, and promoting inclusive values to maximize overall HRM effectiveness. In sum, integrated, evidence-based HRM practices are indispensable for cultivating a favourable work climate, driving motivation, and supporting the overarching strategic objectives of educational institutions.

2.2. Employee Performance

Employee performance, quantified by indicators such as quality, quantity, timeliness, effectiveness, independence, and commitment (Qalati et al., 2022), is the central outcome variable of strategic HRM in global educational settings. These metrics directly impact the achievement of academic and public service goals. International research characterizes performance assessment as a multifaceted construct involving observable outcomes, latent psychological aspects (e.g., effort), and subjective evaluations, all influenced by the organizational climate and stakeholder expectations (Murphy & DeNisi, 2022; Ritz et al., 2023; Robbins & Judge, 2024).

In academia, performance is defined as the successful accomplishment of tasks within a specific timeframe, reflecting an individual's ability to work optimally and generate output that justifies the resources expended (Theodore & Lilyana, 2017). Performance appraisal systems function as formal mechanisms to gauge work effectiveness, pinpoint competency deficits, drive continuous improvement, and ensure equitable reward schemes, practices essential for global HR management (Kumar & Rao, 2023). Cross-national studies consistently identify critical performance antecedents, including organizational climate, management support, work quality/quantity, motivation, organizational commitment, competence, job design, and leadership style (Robbins & Judge, 2016). By integrating these findings, HR managers in higher education can design recruitment, training, and evaluation programs aligned with global standards, thereby enhancing academic productivity, teaching quality, and stakeholder satisfaction.

2.3. Competency Development

Competence is a multidimensional construct encompassing the requisite knowledge, skills, and attitudes (KSAs) that form the bedrock of educational HRM worldwide, given the direct link between staff capabilities and the quality of teaching, research, and public services (Cao et al., 2022; Spencer & Spencer, 1993). The generic competency framework proposed by Mulder & Wintertoon (2017) necessitates a synergistic interaction among these three elements for effective academic task execution, a view supported by Marnisah et al. (2022). Individual competencies serve as critical differentiators of work outcomes and strategic indicators for achieving institutional goals (Alsabbah & Ibrahim, 2017).

Regulatory frameworks, such as the Indonesian Civil Servant Law No. 5/2014, emphasize the mandatory integration of technical, managerial, and socio-cultural competencies in public services. Zwell (2024), categorizes HR competency development into five dimensions: task achievement, interpersonal relations, managerial skills, leadership, and personal attributes, all highly relevant to both faculty (e.g., results orientation, innovation) and support staff (e.g., teamwork, motivation).

Rembulan & Darmawati (2021), further specify four crucial competencies: planning, influencing, communication, and self-management, essential for managing curriculum change and academic leadership. Factors influencing competency development, such as individual beliefs, values, experiences, and motivation (Suwardi, 2023), as well as personality and organizational climate (Selamet, 2024), must be considered when designing global HE HR policies. Implementing competency-based strategies for recruitment, professional development, and assessment is vital for strengthening academic competitiveness and meeting the demands of international stakeholders.

2.4. Organizational Climate

Global educational institutions must strategically manage the organizational climate due to their pervasive influence on staff performance and well-being. Ehrhart et al. (2025), define organizational climate as the shared collective perception among employees regarding institutional policies, practices, procedures, and managerial behaviors related to rewards, support, and expectations.

In the academic environment, these collective perceptions significantly impact the institution's internal quality and staff work behaviour (Ismail et al., 2021). Key components identified include clear procedural structure, supervision, rewards, peer relationships, and leadership support (Denny, 2022). These align with Lussier (2022) seven foundational elements: structure, responsibility, rewards, warmth, support, identity & loyalty, and risk. Contemporary research adds leadership, communication, work culture, and employee engagement as interacting factors that shape a healthy climate (Wibawa et al., 2024). Furthermore, variables such as innovation, flexibility, work autonomy, performance standards, reward systems, and goal clarity are critical influencers (Zamzam et al., 2021). Integrating these findings into global educational HRM policies allows institutions to design programs that foster learning innovation, interdisciplinary collaboration, and staff well-being, ultimately enhancing educational quality and international competitiveness.

2.5. Management Support

Management support must be a strategic pillar of HRM in educational institutions to improve the quality of teaching, research, and administrative services. Defined as the active commitment of senior management to provide resources, create a conducive work environment, and empower employees through continuous engagement (Afridi et al., 2023), management support is paramount. In the academic context, providing necessary facilities, technology, and a productive organizational culture are crucial elements (Djonu et al., 2023). Clear communication, technical assistance, risk-based planning, and continuous performance evaluation (Wijoyo, 2021) strengthen staff confidence, allowing them to focus on core academic tasks.

Matsuo (2022) delineates three fundamental functions of management support: executive attitude (senior leadership cross-departmental interaction), application portfolio (strategic management of technology applications), and dominant suppliers (collaboration with external partners). These functions must be systematically embedded in staff recruitment, orientation, and professional development policies to build technical, managerial, and socio-cultural competencies (Hertati et al., 2020). Factors such as fairness in decision-making, organizational rewards, and concern for employee welfare significantly influence the quality of support (Duong & Ho, 2024; Yan et al., 2024). Measurable indicators of support include employee autonomy, management involvement in strategy, accuracy of reports, opportunities for recommendations, rapid management response, adequate budget, and infrastructure availability (Giustolisi et al., 2024).

Furthermore, appreciation for contributions, attention to grievances, constructive feedback, and job satisfaction are pivotal for increasing academic staff motivation and retention (Eisenberger et al., 2020) in an era demanding learning innovation and cross-disciplinary collaboration. By integrating these critical factors into a global HE HRM framework, institutions can establish selective recruitment, relevant ongoing training, and fair, evidence-based performance appraisal mechanisms, thereby creating a climate that robustly supports innovation, collaboration, and the overall well-being of their human capital.

3. METHODOLOGY

3.1. Study Design

This study uses an empirical and systematic quantitative approach, based on the philosophy of positivism, which focuses on testing hypotheses regarding the relationship between variables through numerical measurements and statistical analysis (Creswell & Cresswell, 2018). Specifically, the design used is ex post facto (Capili & Anastasi, 2024), a causal-comparative study in which the independent variables (Competency Development (X1), Organizational Climate (X2), and Management Support (X3) are not manipulated because the events have already occurred, and this study aims to identify the influence of these variables on Employee Performance (Y) at two higher education institutions in Magelang (Sugiyono, 2023).This ex-post-facto design was chosen to understand and develop science based on available data (need to know), so that causal inference testing is carried out by paying attention to the limitations of non-experimental designs (Capili & Anastasi, 2024). Data analysis will utilize relevant multivariate techniques to test the relationship model between these variables (Hair et al., 2019).

3.2. Participant

The population of this study consists of 203 non-

educational staff from STAI Syubbanul Wathon (private, religious-based) and Universitas Tidar (state/BLU) in Magelang, chosen for their relevance as two higher education institutions with different management types, providing a comparative context for examining employee performance (Sugiyono, 2023). To ensure efficiency and accuracy in the analysis, the sample size (n) was estimated using Slovin's formula with a 5% margin of error (e = 0.05), resulting in a minimum sample of 135 respondents (Slovin, 1960). The sampling strategy used is Proportionate Stratified Random Sampling (Arikunto, 2014), a probability technique applied to ensure accurate representation from each stratum (institution) according to its population proportion ($ni = \frac{Ni}{N} . n$). In this case, the sample proportions were calculated based on the number of staff in each institution. Of the total 25 staff at STAI Syubbanul Wathon, 17 respondents were selected, while from the 178 staff at Universitas Tidar, 118 respondents were selected. This approach ensures that each institution is represented according to its population proportion, minimizing selection bias and strengthening the generalizability of the findings to the broader population (Hair et al., 2019).

3.3. Data Collection Tools

Quantitative data collection was conducted through the distribution of written questionnaires to 135 employees, using dual online and offline methods to optimize response rates and practicality for respondents (Sujarweni, 2021). This instrument was designed to measure the influence of three independent variables on one dependent variable. The instrument employed a Modified Four-Point Likert Scale, intentionally removing the neutral option to reduce central tendency bias and enhance the discriminative power of responses (Hartono, 2024). This format encourages respondents to take a clearer position, thereby improving data variability and supporting the validity and reliability of the measurement results (Floyd & Widaman, 1995). The instrument development followed systematic stages, starting with the operationalization of variables and the preparation of a detailed grid. In total, the instrument grid for the independent variables (Competency Development (X1) has 14 indicators, Organizational Climate (X2) has 15 indicators, and Management Support (X3) has 14 indicators) and the dependent variable (Employee Performance (Y) has 12 indicators).

3.4. Validity Of Data Collection Tools

To ensure the validity and reliability of the instrument, the research instrument was systematically developed and rigorously tested. Internal validity (construct and content) was ensured through expert judgment to verify the conceptual suitability of the items. Furthermore, external (empirical) validity was tested on 30 separate respondents using Pearson's Product-Moment Correlation (Riduwan, 2018), where an item is declared valid if r>0.361 or Sig.<0.05 (Sugiyono, 2023).

The following are the results of the validity test in this study:

Table 1: Validity Test Results on X1, X2, X3 And Y.

Correlations	X1 Validity Test	Result	X2 Validity Test	Result	X3 Validity Test	Result	Y Validity Test	Result	Statistics
Pearson Correlation	X1.01	.669**	X2.01	.668**	X3.01	.564**	Y.01	.637**	Valid
Sig. (2-tailed)		0.000		0.000		0.001		0.000	
N		30		30		30		30	
Pearson Correlation	X1.02	.484**	X2.02	.477**	X3.02	.738**	Y.02	.474**	Valid
Sig. (2-tailed)		0.007		0.008		0.000		0.008	
N		30		30		30		30	
Pearson Correlation	X1.03	.453*	X2.03	.616**	X3.03	.569**	Y.03	.522**	Valid
Sig. (2-tailed)		0.012		0.000		0.001		0.003	
N		30		30		30		30	
Pearson Correlation	X1.04	.365*	X2.04	.567**	X3.04	.576**	Y.04	.424*	Valid
Sig. (2-tailed)		0.048		0.001		0.001		0.019	
N		30		30		30		30	
Pearson Correlation	X1.05	.737**	X2.05	.553**	X3.05	.743**	Y.05	.569**	Valid
Sig. (2-tailed)		0.000		0.002		0.000		0.001	
N		30		30		30		30	
Pearson Correlation	X1.06	.584**	X2.06	.432*	X3.06	.367*	Y.06	.807**	Valid
Sig. (2-tailed)		0.001		0.017		0.046		0.000	
N		30		30		30		30	
Pearson Correlation	X1.07	.519**	X2.07	.367*	X3.07	.405*	Y.07	.558**	Valid

Sig. (2-tailed)		0.003		0.046		0.026		0.001	
N		30		30		30		30	
Pearson Correlation		.390*		.429*		.453*		.404*	
Sig. (2-tailed)	X1.08	0.033	X2.08	0.018	X3.08	0.012	Y.08	0.027	Valid
N		30		30		30		30	
Pearson Correlation		.713**		.480**		.583**		.522**	
Sig. (2-tailed)	X1.09	0.000	X2.09	0.007	X3.09	0.001	Y.09	0.003	Valid
N		30		30		30		30	
Pearson Correlation		.604**		.443*		.432*		.765**	
Sig. (2-tailed)	X1.10	0.000	X2.10	0.014	X3.10	0.017	Y.10	0.000	Valid
N		30		30		30		30	
Pearson Correlation		.616**		.562**		.577**		.423*	
Sig. (2-tailed)	X1.11	0.000	X2.11	0.001	X3.11	0.001	Y.11	0.020	Valid
N		30		30		30		30	
Pearson Correlation		.696**		.679**		.433*		.435*	
Sig. (2-tailed)	X1.12	0.000	X2.12	0.000	X3.12	0.017	Y.12	0.016	Valid
N		30		30		30		30	
Pearson Correlation		.640**		.640**		.626**		1	
Sig. (2-tailed)	X1.13	0.000	X2.13	0.000	X3.13	0.000	Y. T		Valid
N		30		30		30		30	
Pearson Correlation		.765**		.581**		.506**			
Sig. (2-tailed)	X1.14	0.000	X2.14	0.001	X3.14	0.004			Valid
N		30		30		30			
Pearson Correlation		1		.596**		1			
Sig. (2-tailed)	X1. T		X2.15	0.0005	X3. T				Valid
N		30		30		30			
Pearson Correlation				1					
Sig. (2-tailed)			X2. T						Valid
N				30					

The test results showed that all items (14 Competency Development, 15 Organizational Climate, 14 Management Support, and 12 Employee Performance) were declared valid, ensuring that the instrument accurately measures the intended constructs. The reliability of the instrument was determined through Cronbach's Alpha measurement (Arikunto, 2014).

The following are the results of the reliability test in this study:

Table 2: Reliability Test Results on X1, X2, X3 And Y.

Reliability Statistics		
Variables	Cronbach's Alpha	N of Items
X1	0.819	14
X2	0.813	15
X3	0.810	14
Y	0.786	12

The test results indicate that all variables exhibit high internal consistency (α values ranging from 0.786 to 0.819), far above the threshold of 0.60, thus confirming that the questionnaire is reliable and suitable for use in primary data analysis.

3.5. Prerequisite Analysis Test

Before conducting the analysis, the researchers conducted a series of prerequisite tests:

1. Normality test using Kolmogorov-Smirnov, with a probability value (Sig.) > 0.05 to ensure the data is usually distributed. The results of the Kolmogorov-Smirnov test in Figure 2 below show that the Asymp value Sig. = 0.200 > 0.05, which indicates normality.

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		135
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	3.84645652
Most Extreme Differences	Absolute	.049
	Positive	.049
	Negative	-.047
Test Statistic		.049
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Figure 2: Normality Test Results.

2. Multicollinearity test with the criteria used are: if the VIF value < 10 or the Tolerance value > 0.10, then it is said that there is no multicollinearity. The results of the multicollinearity test are as follows for variables X and Y:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	9.958	3.090		3.222	.002		
	Competency Development	.239	.072	.280	3.322	.001	.632	1.583
	Organizational Climate	.332	.071	.413	4.653	.000	.568	1.760
	Management Support	.033	.066	.039	.502	.616	.757	1.321

a. Dependent Variable: Employee Performance

Figure 3: Multicollinearity Test Results on X1, X2 And X3.

Based on the test results in Figure 3, the VIF value for X1 → Y is 1.583, X2 → Y is 1.760, and X3 → Y is 1.321, all below 10. In addition, the Tolerance values obtained are 0.632 for X1 → Y, 0.568 for X2 → Y, and 0.757 for X3 → Y, all above 0.10. Thus, the test results indicate no multicollinearity between variables X → Y.

3. The heteroscedasticity test in this study was conducted using a scatterplot. A randomly distributed residual pattern indicates the absence of heteroscedasticity. The residual versus prediction graph shows a random distribution without a pattern, thus meeting the homoscedasticity assumption. The following are the results of the heteroscedasticity test:

Figure 4: Heteroscedasticity Test Results.

4. The linearity test was conducted through analysis of variance (ANOVA), with the

criteria for a linear relationship determined based on a significance value (Sig.) > 0.05 or a calculated F value < F table at a significance level of 5% (α = 0.05). The following are the results of the linearity test for variable X against Y:

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)	3248.815	131	24.800	.590	.828
	Linearity	258.670	1	258.670	6.159	.089
	Deviation from Linearity	2990.145	130	23.001	.548	.854
Within Groups		126.000	3	42.000		
Total		3374.815	134			

Figure 5: Results of the Linearity Test Between Employee Performance (Y) And Competency Development (X1).

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)	3067.315	119	25.776	1.257	.319
	Linearity	408.501	1	408.501	19.927	.000
	Deviation from Linearity	2658.814	118	22.532	1.099	.445
Within Groups		307.500	15	20.500		
Total		3374.815	134			

Figure 6: Results Of the Linearity Test Between Employee Performance (Y) And Organizational Climate (X2).

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)	3270.065	130	25.154	.961	.611
	Linearity	26.028	1	26.028	.994	.375
	Deviation from Linearity	3244.036	129	25.148	.960	.611
Within Groups		104.750	4	26.188		
Total		3374.815	134			

Figure 7: Results Of the Linearity Test Between Employee Performance (Y) And Management Support (X3).

The test results in Figures 5, 6, and 7 show the significance values for each variable are: X1→Y = 0.854, X2→Y = 0.445, and X3→Y = 0.611. Because all significance values are above the threshold of α = 0.05, it can be concluded that the relationship between the independent variables (X1, X2, X3) and the dependent variable (Y) is linear.

After all assumptions are met, the hypothesis is tested using simple and multiple linear regression to examine the influence of independent variables on dependent variables simultaneously.

The results of the hypothesis testing in this study are as follows:

1. Partial Effect (T-Test)

The simple regression results in the following figure shows that X1, X2, and X3 individually have a positive and significant effect on Y:

Coefficients[a]

Unstandardized Coefficients		Standardized Coefficients		
B	Std. Error	Beta	t	Sig.
16.640	2.759		6.030	.000
.463	.062	.542	7.430	.000

Figure 8: T-Test Results (Hypothesis of X1 Against Y).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.542[a]	.293	.288	4.235	.293	55.204	1	133	.000

Figure 9: R Square of X1 Against Y.

Coefficients[a]

Unstandardized Coefficients		Standardized Coefficients		
B	Std. Error	Beta	t	Sig.
15.111	2.555		5.913	.000
.482	.056	.599	8.632	.000

Figure 10: T-Test Results (Hypothesis of X2 Against Y).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.599[a]	.359	.354	4.033	.359	74.506	1	133	.000

Figure 11: R Square of X2 Against Y.

Coefficients[a]

Unstandardized Coefficients		Standardized Coefficients		
B	Std. Error	Beta	t	Sig.
14.090	2.237		6.299	.000
.528	.051	.667	10.334	.000

Figure 12: T-Test Results (Hypothesis of X3 Against Y).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.667[a]	.445	.441	3.752	.445	106.782	1	133	.000

Figure 13: R Square of X3 Against Y.

All independent variables have a Sig.=0.000 <0.05. Furthermore, the calculated t-values (7.430, 8.632, and 10.334) substantially exceed the calculated t-value (1.97824) at the 95% confidence level.

2. Simultaneous Effect (F-Test)

The multiple regression in the following figure confirms that the three variables collectively significantly influence Employee Performance (Sig.=0.000). The calculated F-value of 47.918 is significantly greater than the F-value of 2.67.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1765.744	3	588.581	47.918	.000[b]
	Residual	1609.071	131	12.283		
	Total	3374.815	134			

Figure 14: F-Test Results (Simultaneous Hypothesis Test of X1, X2, And X3 Against Y).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.723[a]	.523	.512	3.505	.523	47.918	3	131	.000

Figure 15: R Square of X1, X2, And X3 Against Y.

The coefficient of determination (R2) is 0.523, meaning that the model that includes competency development, organizational climate, and management support effectively explains 52.3% of the variation in employee performance. Factors outside the model explain the remainder (47.7%).

3.6. Data Analysis Procedure

Quantitative data analysis was conducted using SPSS statistical software version 25, starting with descriptive statistics including the calculation of Mean, Median, and Standard Deviation for variables (X1, X2, X3, Y), as well as data categorization into three levels (High, Medium, Low) based on the Ideal Mean and Ideal Standard Deviation (Sekaran & Bougie, 2016). Before hypothesis testing, Classical Assumption Tests were conducted including Normality (Kolmogorov-Smirnov, Sig.>0.05), Multicollinearity (VIF<10 and Tolerance>0.10), Heteroscedasticity (random scatterplot), and Linearity (Sig. Deviation from Linearity>0.05)—to ensure the validity of the regression model (Gujarati & Porter, 2009; Hair et al., 2019).

Hypothesis testing was carried out through Simple Linear Regression Analysis for partial effects (using the t-test, Sig. <0.05 or tcount>ttable), and Multiple Linear Regression Analysis for simultaneous effects (using the F-test, Sig. <0.05 or Fcount>Ftable), which was then supplemented by calculating the Coefficient of Determination (R2) to measure the simultaneous contribution of independent variables to the dependent variable (Chicco et al., 2021).

3.7. Ethical Considerations

This research was conducted with methodological integrity and academic ethics in mind, with all procedures aligned with institutional ethical standards and protocols. Formal ethical clearance was obtained from the university ethics committee prior to data collection. Each participant provided informed consent explaining the study's purpose, methodology, confidentiality protections, and rights, including the right to withdraw at any time without consequence (Creswell & Cresswell, 2018). To ensure anonymity, data were immediately de-identified, and all digital files were securely stored in a password-protected environment. These procedures, including written permission from both institutions, ensured that the study was accountable and prioritized the well-being of participants.

4. RESULTS

4.1. Analytical Approach and Descriptive Statistics

The study employed a quantitative approach using Descriptive and Inferential Statistical Analysis to examine the relationship between competency development (X1), organizational climate (X2), and management support (X3) on employee performance (Y). Data processing and analysis were performed using Statistical Package for the Social Sciences (SPSS) software, version 25.

4.1.1. Descriptive Statistics

Initial descriptive statistical analysis summarizes the characteristics of central tendency, dispersion, and distribution of observed variables.

Key measures, including the mean, median, and standard deviation (SD), are calculated for all variables based on data collected from respondents,

as presented in the following table:

Table 3: Summary of Descriptive Statistics for Study Variables.

Variable	N	Minimum Score	Maximum Score	Mean	Median	Standard Deviation (SD)	Statement items
Competency Development (X1)	135	28	56	43.859	44.00	5.866	14
Organizational Climate (X2)	135	31	60	45.370	45.00	6.243	15
Management Support (X3)	135	17	56	43.326	43.00	5.889	14
Employee Performance (Y)	135	25	48	36.963	36.00	5.018	12

As summarized in Table 4, the mean scores for all predictor variables (X1, X2, X3) and the dependent variable (Y) were relatively high, indicating a generally positive perception among respondents. Organizational Climate (X2) recorded the highest Mean (M=45.370, SD=6.243), suggesting it is the most strongly perceived variable. Employee Performance (Y) had the lowest dispersion (SD=5.018), indicating a relatively homogenous scoring pattern compared to the other variables. The close alignment between the mean and Median for all variables suggests an approximately normal distribution of the data (Sekaran & Bougie, 2016).

4.1.2. Categorization And Distribution Analysis

To provide a more critical interpretation, the variables were categorized qualitatively into Low, Medium, and High levels. This categorization was based on the Ideal Mean (Mi) and Ideal Standard Deviation (SDi), a common methodological approach in social science research utilizing Likert-scale data (Sugiyono, 2023). The ideal score range was calculated based on the minimum (1) and maximum (4) possible answer scores for the respective number of indicator items for each variable.

The following is the calculation of the variable score categorization and the classification results:

Table 4: Categorization of Variable Scores and Classification Results.

Variable	Ideal Min Score	Ideal Max Score	Ideal Mean (Mi)	Ideal SDi	Low (X < Mi−1SDi)	Medium (Mi−1SDi < X < Mi+1SDi)	High (X > Mi+1SDi)	Actual Mean	Final Category
X1	14	56	35.0	7.0	X < 28	28 < X < 42	X > 42	43,859	High
X2	15	60	37.5	7.5	X < 30	30 < X < 45	X > 45	45,370	High
X3	14	56	35.0	7.0	X < 28	28 < X < 42	X > 42	43,326	High
Y	12	48	30.0	6.0	X < 24	24 < X < 36	X > 36	36,963	High

Based on the categorization criteria in Table 5, the actual mean scores for all variables ranging from Competency Development (X1), Organizational Climate (X2), Management Support (X3), and Employee Performance (Y) can be classified at the High level. This result is evidenced by all actual mean scores exceeding the upper threshold of the medium category (e.g., the mean of X1 of 43.859 is greater than 42). This finding is crucial because it establishes the context that the sample population generally perceives all studied factors and their performance outcomes at a high positive level, which will further inform the interpretation of the inferential analysis results.

4.1.3. Frequency Distribution Analysis

Analysis of the score distribution across interval classes was performed to identify the dominant concentration of respondent scores. The results are summarized in the following table:

Table 5: Dominant Frequency Distribution of Variable Scores.

Variable	Dominant Score Range	Frequency (n)	Percentage (%)
Competency Development (X1)	44–47	38	28%
Organizational Climate (X2)	39–42	38	28%
Management Support (X3)	42–46	55	41%
Employee Performance (Y)	34–36	36	27%

The frequency analysis reinforces the high-level categorization. Management Support (X3) exhibited the most concentrated positive perception, with the highest percentage (41% of respondents) clustering in the 42–46 score range. This finding suggests that among the predictor variables, management support is the most empirically salient factor driving the overall positive sentiment in the dataset.

5. DISCUSSION

Empirical findings from the regression analysis highlight the multifaceted role of human resource (HR) and work environment factors in driving employee performance (Y). The results indicate that competency development (X1), organizational climate (X2), and management support (X3) are individually and simultaneously significant and positive predictors of performance improvement.

5.1. Competency Development Is the Foundation of Individual Capacity.

Simple regression analysis shows that competency development (X1) has a positive and significant influence on employee performance (t=7.430>t-table=1.9782; Sig.=0.000<0.05). This variable accounts for 29.3% of the variation in performance (R2=0.293). This contribution is fundamentally aligned with the generic competency perspective, which emphasizes the integration of relevant knowledge, skills, attitudes, values, and personality characteristics (Cao et al., 2022; Spencer & Spencer, 1993). These results strengthen the argument that competency development is not simply a process of accumulating individual characteristics, but rather a strategic foundation for continuous improvement in professional performance. In the modern HR context, competencies are developed through high-performance work systems, including training, learning, and mentoring, which aim to increase capabilities and adaptability to role demands (Hantono & Wijaya, 2025). In addition, this positive impact is reinforced by Perceived Organizational Support (POS), where training support and reward systems encourage commitment and optimal performance (Eisenberger et al., 2020; Zwell, 2024).

The construct of competency development is defined comprehensively, encompassing critical dimensions such as knowledge, skills, attitudes, motivation, and personality characteristics (Spencer & Spencer, 1993). This holistic approach aligns with the view that competency is a generic competence, namely the synergistic integration of knowledge, skills, and attitudes essential for effective task performance (Cao et al., 2022).

Therefore, investment in competency development, through training and academic programs, not only enhances individual capacity but also serves as a strategic factor driving performance improvement through mechanisms for enhancing technical capabilities and soft skills (Alsabbah & Ibrahim, 2017). This influence is reinforced through a strategic HRM framework, where competency development programs (training, education, and coaching) must be integrated with other HRM processes such as selection and compensation (Mulder & Wintertoon, 2017). This relationship is further explained by the Perceived Organizational Support (POS) theory (Eisenberger et al., 2020), where the provision of training resources by management triggers a sense of reciprocity and increases employee commitment, ultimately improving work output. These findings underscore that competency development should be viewed not merely as an administrative function, but as a key catalyst that systematically strengthens employees' ability to achieve organizational goals and drive innovation (Kehoe & Han, 2020).

5.2. Organizational Climate as a Driver of Motivation and Work Direction

The findings show that organizational climate (X2) also has a positive and significant effect on employee performance (t=8.632>t-table=1.9782; Sig.=0.000<0.05), explaining 35.9% of the variation in performance (R2 =0.359). Organizational climate, which encompasses collective perceptions of culture, behavioral norms, communication, leadership style, and clarity of work goals (Lussier, 2022), acts as an institutional framework that shapes the work environment. Positive perceptions of climate directly influence employee motivation, role certainty, and task orientation (Ehrhart et al., 2025). Consistency and fairness in Human Resource Management (HRM) practices such as recruitment, compensation, and performance evaluation are crucial in creating a productive and collaborative climate (Dessler, 2020). Therefore, organizational climate is not just a reflection of the atmosphere but is a governance mechanism that strengthens motivation and productivity through increased POS (Eisenberger et al., 2020; Kehoe & Han, 2020).

Organizational Climate is defined as employees' collective perceptions of the work environment, shaped by policies, practices, procedures, and behaviors that reflect the organization's rewards, support, and expectations (Ehrhart et al., 2025). A favourable climate characterized by clear policies, fair rewards, and supportive leadership can increase employees' intrinsic and extrinsic motivation, strengthen commitment, and enhance role clarity, all of which led to improved performance (Robbins & Judge, 2024).

The role of Organizational Climate is central to the HRM framework; implementing policies consistently and fairly directly shapes a favourable Organizational Climate (Dessler, 2020). A supportive climate will increase POS (Eisenberger et al., 2020), so

that employees are more motivated to contribute optimally (Lussier, 2022). Thus, Organizational Climate is not merely a psychological aspect, but a collective foundation that directly determines the transfer of individual competencies into organizational performance.

5.3. Management Support as a Catalyst for Strategy Implementation

Simple regression results show that management support (X3) has the most significant influence, with a coefficient of determination (R2) of 0.445, explaining 44.5% of the variation in performance, with a positive and significant effect (t=10.334>t-table=1.9782; Sig.=0.000<0.05). Management support, indicated by resource availability, involvement in planning, feedback, rewards, and attention to work-life balance (Afridi et al., 2023), serves as a strategic instrument to accelerate goal achievement. Managerial commitment to providing resources and a constructive work environment fundamentally strengthens motivation and overcomes operational obstacles (Duong & Ho, 2024; Matsuo, 2022). Within the HRM framework, managerial support bridges strategic policies with operational implementation (Kehoe & Han, 2020), fostering positive perceptions of the organization and a sense of ownership that drives improved individual and collective performance (Allui & Sahni, 2016).

Management Support is defined as an active commitment from management to provide resources, strategic direction, responsive feedback, and create a conducive and trust-based work environment (Giustolisi et al., 2024). Key indicators include task autonomy, management involvement in planning, supportive policies, rewards and recognition, and concern for work-life balance (Yan et al., 2024). Theoretically, Management Support is a practical manifestation of POS (Eisenberger et al., 2020). When employees perceive organizational fairness, strong superior support, and a transparent reward system, they increase their intrinsic motivation and reduce resistance to change, which directly impacts the quality and quantity of work output (Duong & Ho, 2024). This support ensures that competencies are effectively translated into work behaviors, as operational barriers are minimized, and employees receive timely feedback and resources. In the context of HRM, Management Support serves as a critical link between organizational strategy and line-level implementation (Kehoe & Han, 2020). Effective HR management must ensure that compensation systems, continuous development, and transparent evaluations channel Management Support to employees, thereby achieving the institution's strategic goals sustainably (Mukminin et al., 2019). The high R2 indicates that without measurable top management commitment, competency development initiatives or a favourable organizational climate will struggle to reach their full potential.

5.4. Integrative Implications and Systemic Synergy

The multiple regression analysis yielded an F-value of 47.918, significantly greater than the F-table of 2.67 (Sig.=0.000<0.05), indicating that the three variables simultaneously and positively influence employee performance. This model explains 52.3% of the total performance variation (R2=0.523). These combined contributions highlight the need for a holistic approach to performance management. These three variables interact synergistically to influence the technical, motivational, and structural aspects of performance (Kasmir, 2019): 1) Competency Development enhances technical capacity and innovation (Cao et al., 2022; Ritz et al., 2023). 2) Organizational Climate creates a work atmosphere that supports collaboration and adaptation to change (Ehrhart et al., 2025; Robbins & Judge, 2024). 3) Management Support provides resources and direction that accelerate the achievement of work targets (Afridi et al., 2023). All three operate within a mutually reinforcing HRM system, where supportive leadership facilitates training and fosters a work culture that enables the internalization and standardization of new competencies in daily work practices (Eisenberger et al., 2020). Performance improvement strategies that focus solely on one aspect without considering the systemic interdependencies between the three tend to produce suboptimal results (Afridi et al., 2023; Duong & Ho, 2024; Ehrhart et al., 2025).

The synergy that emerges from the interaction of these three factors is the primary foundation for a High-Performance Work System. Competency Development serves as a pillar of individual capability, equipping employees with cutting-edge technical knowledge and soft skills, thereby improving the quality, quantity, and innovation of work output (Ritz et al., 2023). However, this capability can only be optimally manifested if supported by a conducive and supportive Organizational Climate. A favourable climate that ensures procedural fairness, open communication, and collaborative norms acts as a critical mediator,

transforming potential competencies into actual performance. This climate fosters high levels of Perceived Organizational Support (POS), fosters a strong sense of reciprocity and commitment from employees, and effectively reduces psychological barriers to implementing new skills (Ehrhart et al., 2025; Lussier, 2022).

The role of Management Support here is as a catalyst and strategic enabler. This support not only provides financial resources and facilities for training programs (X1) but also, through coaching, mentoring, and timely feedback, ensures that newly acquired competencies can be effectively transferred and adapted to daily operational tasks (Afridi et al., 2023). Within the Strategic Human Resource Management (HRM) framework, managerial support bridges top management policies with line-level implementation, creating an environment where skills are transparently valued and evaluated, which in turn strengthens the Organizational Climate and intrinsic motivation (Hantono & Wijaya, 2025). Therefore, investment in competency development that is not complemented by a favourable Organizational Climate and consistent Managerial Support will result in low skill retention and stagnant performance improvements, in line with the HRM goal of maximizing the effectiveness and efficiency of human resources (Fachrurazi et al., 2021).

The strategic implication of these findings is the need for institutions to adopt an integrated intervention approach. Competency development programs must be closely aligned with measurable performance requirements and reinforced through an assessment system that measures not only quantitative output but also how competencies are used within the organizational context (Qalati et al., 2022). Line management must be systematically trained to provide consistent technical and psychological support. At the same time, organizational climate needs to be fostered through participatory mechanisms, merit-based recognition, and clarity of organizational goals. In short, to achieve sustainable employee performance improvement, institutions must ensure a tight synchronization between individual capacity building (X1), fostering a supportive work environment (X2), and an active managerial role in facilitating achievement (X3).

6. CONCLUSION

The practical implications of these findings suggest that Improving employee performance requires a balance between technical capability development and a supportive work environment. Competency programs must align with job requirements and performance indicators (Qalati et al., 2022). The impact of training is strengthened by a positive organizational climate and active participation (Ehrhart et al., 2025). Management also needs to provide technical and psychological support for the effective implementation of new competencies (Cao et al., 2022). This combination is crucial for creating adaptive and sustainable institutions (Afridi et al., 2023).

7. SUGGESTION

Based on research findings, higher education institutions need to prioritize maintaining the quality and effectiveness of managerial support, organizational climate, and competency development. Practically, leaders can strengthen managerial support through transparent, performance-based resource allocation and structured feedback mechanisms. Competency development programs should be aligned with Training Needs Analysis (TNA) and evaluated through post-training learning transfer measurements. Furthermore, participatory organizational climate initiatives, such as role clarity and a fair reward system, are crucial for strengthening work motivation. As a brief example, institutions can implement a mentorship-based training model, where senior staff mentor junior staff to ensure continuous knowledge transfer. Institutions can also conduct regular work climate surveys and introduce modest performance-based programs to strengthen motivation. These focused interventions provide practical guidance linking institutional policies to operational improvements in the higher education context.

8. DECLARATIONS

Author Contributions. Khusniyatu Zulaikha was responsible for the literature review and conceptualization of the research. Lia Yuliana served as the overall project supervisor and took charge of the project oversight. Meanwhile, Sarah Muslimah Abadi handled the methodology development, data analysis, and visualization of results. Siti Qurniawati executed the data collection process and validation of findings. M. Wahyudin Afrizqi contributed to the writing of the original draft and initial investigation. Toyib contributed to the manuscript review and editing, writing (specific parts), and project administration. Finally, Meilani Kasim participated in

the literature review, data analysis, and provided additional supervision. All authors have read and approved the final version of the article and are fully responsible for the accuracy and integrity of all parts of the work.

Conflicts of Interest. The authors declare no conflict of interest.

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Ethical Approval. This study involved human participants through questionnaires. All research protocols involving human data collection were officially approved by the relevant authorities under approval numbers B/604/UN57.BI/PK.03.08/2025 and 037/WKT-SUM/VII.2025. Informed consent was obtained from all participants. We guarantee data handling that prioritizes anonymity and confidentiality in accordance with international ethical standards.

Data Availability Statement. The datasets generated and analyzed during the current study are available from the corresponding author on reasonable request.

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APPENDICES

Appendix I: Instrument Structure.

https://docs.google.com/document/d/1MO_555WA5xAo5mBXvEKCY93_9W2U2-fd/edit?usp=sharing&ouid=104227513852315258157&rtpof=true&sd=true
Appendix II. Tabulation of Respondent Instruments and Respondent Questionnaires on X1, X2, X3, and Y
https://docs.google.com/document/d/1UUHM98pNt42Md951C9Yz08jfq6g7l68J/edit?usp=sharing&ouid=104227513852315258157&rtpof=true&sd=true

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