

A MEDIATED MODEL OF LEADERSHIP AND WORK ENVIRONMENT ON EMPLOYEE PERFORMANCE: THE ROLE OF HUMAN RESOURCE DEVELOPMENT IN PUBLIC SECTOR ORGANIZATIONS

Pipit Juwita Nengsih¹, Djoko Setyadi², Irsan Tricahyadinata³

¹²³Department of Management, Faculty of Economics and Business, Mulawarman University, Indonesia

¹Pipit Juwita Nengsih, email: pipitjuwita.neng@gmail.com

²Djoko Setyadi, email: djoko.setyadi@feb.unmul.ac.id

³Irsan Tricahyadinata, email: irsan.tricahyadinata@feb.unmul.ac.id (corresponding author)

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Abstract

This study investigates the influence of leadership and the work environment on employee performance, with human resource development (HRD) serving as a mediating variable within a local government context. This research addresses the persistent issue of low employee productivity and limited professional growth in Indonesia's public sector, where leadership practices are predominantly transactional and developmental programs are underutilized. Employing a quantitative and explanatory approach, data were collected from civil servants at the Melayu Village Office, Tenggarong, East Kalimantan. The analysis utilized partial least squares structural equation Modeling (PLS-SEM) via SmartPLS 4. The results indicate that leadership has a significant positive effect on both HRD and employee performance, whereas work environment does not directly impact performance. Additionally, HRD mediates the relationship between leadership and employee performance but does not mediate the connection between the work environment and performance. These findings underscore HRD as a strategic mechanism by which leadership enhances employee outcomes. Theoretically, this study extends the human capital and transformational leadership frameworks to the public sector in developing countries. Practically, it emphasizes the importance of leadership-driven HRD programs in cultivating a competent, motivated, and high-performance workforce within local government institutions.

Keywords: *Leadership; Work Environment; Human Resource Development; Employee Performance; Public Sector; PLS-SEM.*

INTRODUCTION

Public sector employee performance remains a critical concern in developing countries, where administrative efficiency, service quality, and human capital development continue to fall short of private sector standards. In Indonesia, the effectiveness of local government institutions, particularly at the village and sub-district levels, relies heavily on the competence and commitment of their civil servants. Despite significant bureaucratic reform initiatives, employee performance in many government offices remains suboptimal. Issues such as delayed task completion, lack of innovation, and persistently low motivation reflect structural weaknesses in leadership practices and human resource development (HRD) systems. Leadership is instrumental in influencing employee attitudes, work behaviors, and performance outcomes. Transformational leadership, characterized by its focus on inspiration, vision, and empowerment, is widely acknowledged as a critical factor in enhancing employee productivity and achieving organizational success (Liu & Hallinger, 2024; Sarwar et al., 2024). Nevertheless, in the Indonesian public sector, leadership styles frequently remain transactional, concentrating primarily on task supervision and procedural compliance, rather than promoting innovation and competence development. This discrepancy between managerial behavior and the requirements of a dynamic public environment contributes to enduring performance gaps among government employees. Concurrently, the quality of the work environment has been recognized as a contextual factor that can either enhance or impede performance (Chen et al., 2024). A supportive and well-structured work environment not only augments physical comfort, but also fosters psychological safety, collaboration, and knowledge sharing among employees. However, in numerous local administrative units,

facilities are outdated, interpersonal relations are fragmented, and the digital infrastructure is inadequate. These deficiencies inhibit employees from fully realizing their potential and impede the overall effectiveness of public service delivery. Beyond leadership and workplace conditions, human resource development (HRD) serves as a strategic conduit that links managerial influence with measurable performance outcomes. HRD initiatives such as training, mentoring, and career development equip employees with essential competencies for effective performance while promoting a culture of continuous learning and improvement (Noe, 2021). Empirical studies across both the public and private sectors consistently demonstrate that investments in HRD not only augment individual capabilities but also enhance overall organizational performance (Farmanesh et al., 2023; Uddin et al., 2022). However, within local government agencies, HRD often remains administrative rather than strategic, and focuses on compliance-based training rather than transformative learning.

The misalignment identified in this study creates both theoretical and empirical gaps. While prior research has extensively examined the direct effects of leadership and the work environment on employee performance, relatively few studies have investigated the mediating role of Human Resource Development (HRD) in these relationships, particularly within public sector contexts in developing economies. Most existing models presuppose linear causality, thereby overlooking the potential for leadership effectiveness to operate indirectly through HRD intervention. Consequently, understanding the mediating role of HRD is crucial for elucidating how leadership translates into enhanced employee performance and how contextual factors such as the work environment interact with this mechanism. To address this gap, this study proposes and empirically tests a mediated model that links leadership, work environment, HRD, and employee performance among civil servants employed at the Melayu Village Office in Tenggarong, East Kalimantan. This setting exemplifies a typical public administration context in Indonesia, where limited resources and rigid structures present challenges to organizational effectiveness.

The objectives of this study are threefold: first, to analyze the direct effects of leadership and work environment on employee performance; second, to examine the impact of these factors on Human Resource Development (HRD); and third, to test the mediating role of HRD in the relationship between leadership, work environment, and employee performance. This study makes both theoretical and practical contributions. Theoretically, it extends the application of transformational leadership and human capital theories to the context of local governments, illustrating how HRD can function as an explanatory mechanism linking managerial influence with organizational outcomes. Practically, the findings offer actionable insights for policymakers and administrators, aiming to enhance public employee performance through strategic HRD initiatives and leadership development programs. By situating this research within the Indonesian public sector, this study also contributes to a broader understanding of human resource management in developing nations, where institutional constraints often limit innovation and learning. The remainder of this paper is organized as follows. The next section reviews the theoretical background and formulates the hypotheses. Section 3 outlines the research methodology, including the sample, measurement, and analytical procedures. Section 4 presents the empirical results of the PLS-SEM analysis, followed by a detailed discussion in Section 5. Finally, Section 6 concludes with implications for theory, practice, and future research directions.

LITERATURE REVIEW

2.1 Employee Performance

Employee performance is broadly defined as the degree to which an individual accomplishes assigned tasks and contributes to achieving organizational objectives in terms of quality, quantity, and timeliness (Armstrong and Taylor 2020). In the public sector, performance extends beyond task efficiency and reflects commitment to public values, service excellence, and accountability (Miao et al., 2023). According to the Job Performance Model (Campbell 1990), performance outcomes are determined by three key components: declarative knowledge, procedural knowledge, and motivation. Inadequacy in any of these dimensions can hinder productivity and service outcomes. Previous studies have emphasized that employee performance is influenced by several organizational and individual factors such as leadership (Buil et al., 2019), HRD (Uddin et al., 2022), and workplace conditions (Chen et al., 2024). In the public administration context, performance is particularly sensitive to leadership style and developmental opportunities given the rigid bureaucratic structures and low flexibility typically found in government institutions. Hence, improving employee performance requires both structural reform and human-centered management practices that simultaneously build capacity and motivation.

2.2 Leadership and Employee Performance

Leadership has been a central construct in organizational behavior and management research, and has consistently been identified as a primary driver of performance outcomes (Northouse, 2022). Transformational leadership has been recognized for its ability to inspire and motivate followers by articulating a compelling vision, providing intellectual stimulation, and demonstrating individualized consideration (Bass & Avolio, 1994). Empirical evidence suggests that leaders who adopt transformational behaviors can significantly improve employee commitment, innovation, and overall performance. For example, Liu and Hallinger (2024) found that leadership behaviors that promote trust and empowerment enhance teacher performance in public institutions. Similarly, Sarwar et al. (2024) demonstrate that responsible leadership fosters higher employee engagement, leading to superior performance outcomes. In the public sector, leadership becomes even more critical, because employees often operate under limited resources and rigid regulations. Effective leaders must, therefore, compensate for structural constraints by building intrinsic motivation, developing competencies, and encouraging adaptive learning (Anderson & Sun, 2017). Accordingly, this study posits the following hypothesis:

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

2.3 Leadership and Human Resource Development

Leadership not only influences performance directly, but also shapes the organization's developmental culture. Leaders determine how learning opportunities are distributed, how feedback is provided, and how talent is nurtured (Noe 2021). Transformational leaders facilitate learning by encouraging experimentation, guiding employees through challenges, and supporting continuous skill improvement (Chin et al., 2022). Research in both the private and public sectors has consistently linked effective leadership to higher participation in training, stronger learning motivation, and more strategic HRD practices (Farmanesh et al., 2023; Uddin et al., 2022). When leaders prioritize development and empowerment, employees are more likely to engage in self-directed learning and career growth. Given this theoretical linkage, leadership is expected to enhance HRD initiatives and employee participation rates. Thus, we propose the following hypothesis:

H2: Leadership has a positive and significant effect on human resource development.

2.4 Work Environment and Human Resource Development

The work environment encompasses both the physical and psychosocial dimensions that shape how employees perform their daily tasks (Vischer, 2008). A supportive work environment provides access to adequate facilities, digital infrastructure, ergonomic designs, and constructive interpersonal relationships. According to Job Demands–Resources Theory (Bakker & Demerouti, 2017), a positive environment functions as a job resource that enhances learning and motivation, thereby stimulating participation in HRD activities. Empirical studies have highlighted that conducive workplace conditions such as supervision, team cohesion, and open communications significantly influence employees' willingness to engage in development programs (Chen et al., 2022; Chen et al., 2024). Conversely, poor environmental conditions may limit participation in training, reduce engagement, and weaken organizational learning capabilities. Given this theoretical foundation, the following hypothesis is proposed.

H3: The work environment has a positive and significant effect on human resource development.

2.5 Work Environment and Employee Performance

Work environment quality is widely acknowledged as a determinant of performance in both private and public institutions. A well-designed physical workspace improves comfort and efficiency, whereas a supportive social environment fosters cooperation and innovation (Oldham & Fried, 2016). Social Exchange Theory (Blau, 1964) explains this relationship by suggesting that when organizations provide supportive environments, employees reciprocate with higher performance and loyalty. Empirical research further confirms that employees working in environments perceived as fair, safe, and supportive tend to report higher job satisfaction and productivity (Chen et al. 2024; Khattak et al. 2022). However, in bureaucratic public organizations, the relationship may be weaker due to limited autonomy, outdated infrastructure, or rigid standard operating procedures that constrain employee behavior. Therefore, the following hypothesis was formulated:

H4: The work environment has a positive and significant effect on employee performance.

2.6 Human Resource Development and Employee Performance

Human resource development refers to the systematic process of improving employee competencies through training, performance evaluation, and career management (Noe 2021). Human Capital Theory (Becker, 1993) posits that investment in education and training enhances an individual's productivity and contributes to overall

organizational success. Recent studies consistently demonstrate that HRD is a significant predictor of employee performance. For example, Uddin et al. (2022) found that HRD initiatives increase public servant competence and commitment in South Asia. Similarly, Farmanesh et al. (2023) reported that HRD practices improve knowledge transfer and innovation capability in government organizations. By enhancing knowledge, skills, and motivation, HRD enables employees to perform tasks more effectively and to adapt to changes in policy and technology. Accordingly, we propose the following hypothesis:

H5: Human resource development has a positive and significant effect on employee performance.

2.7 The Mediating Role of Human Resource Development

Leadership and the work environment are not isolated drivers of performance; they operate through the underlying psychological and developmental mechanisms. Organizational Learning Theory (Argyris & Schön, 1978) emphasizes that sustainable performance improvement arises from continuous learning and knowledge application within the workforce. HRD acts as a central conduit through which leadership and environmental factors are translated into tangible outcomes. Transformational leaders encourage employees to participate in developmental activities, while a conducive work environment facilitates the transfer of learning to improved job performance (Kim & Park, 2022). Thus, HRD serves as a mediating variable that operationalizes these relationships by enhancing employee competence and engagement. Empirical studies have supported this notion. For example, Sarwar et al. (2024) found that HRD mediates the relationship between leadership and employee engagement in public organizations. However, the mediating effect between the work environment and performance remains less explored, particularly in developing country contexts where HRD systems are often under-resourced. Hence, this study formulated the following mediation hypotheses:

H6: Human resource development mediates the relationship between leadership and employee performance.

H7: Human resource development mediates the relationship between the work environment and employee performance.

2.8 Conceptual Framework

Based on theoretical and empirical literature, the conceptual model integrates leadership and work environment as independent variables, HRD as a mediating variable, and employee performance as the dependent variable. The framework illustrates both direct and indirect causal pathways

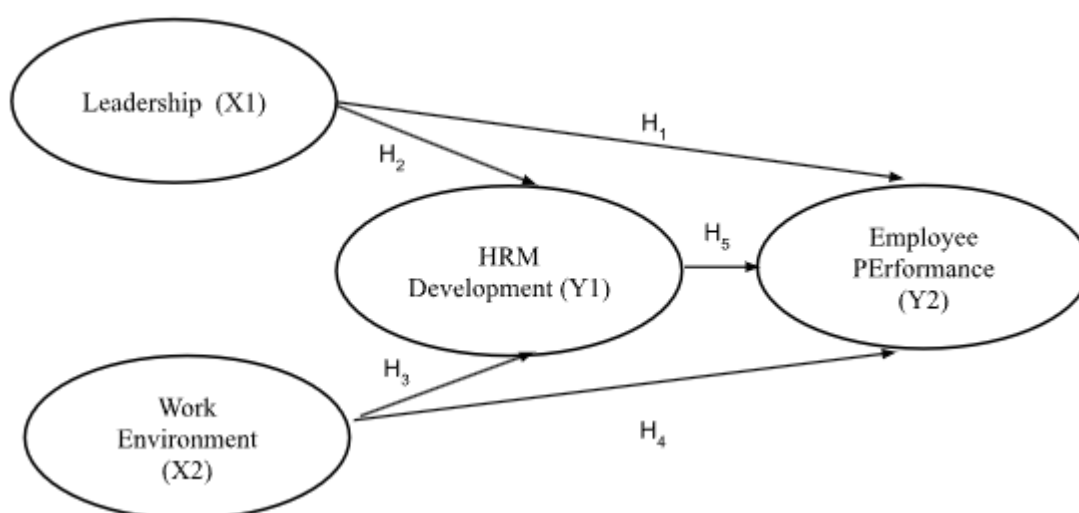


Figure 1. Conceptual Framework of the Research

This model provides an integrated approach to understanding how leadership behavior and workplace conditions interact through HRD mechanisms to influence performance outcomes in public-sector organizations.

METHOD

3.1 Research Design

This study employed a quantitative, explanatory research design aimed at testing the causal relationships between leadership, work environment, human resource development (HRD), and employee performance. The model also examined the mediating role of HRD between the independent and dependent variables. This approach

aligns with positivist epistemology, emphasizing objective measurement, statistical inference, and model testing through structural equation modeling. The Partial Least Squares Structural Equation Modeling (PLS-SEM) method was selected due to its suitability for complex models with relatively small sample sizes and non-normal data distributions (Hair et al., 2022). PLS-SEM allows the simultaneous testing of measurement reliability, validity, and path relationships, making it appropriate for this study's multidimensional construct design.

3.2 Population and Sample

The study population comprised all civil servants working at the Melayu Village Office, Tenggarong District, Kutai Kartanegara Regency, East Kalimantan, Indonesia. Given the limited number of employees, a census sampling technique was used, implying that all members of the population were included as respondents. This technique ensured comprehensive data coverage and reduced sampling bias. The total number of valid respondents was 45 after excluding incomplete questionnaires. The respondents represented various administrative roles, including service officers, financial staff, and public affairs officers. Their average tenure ranged from five to fifteen years, with most holding undergraduate qualifications. This demographic composition provided sufficient diversity to analyze the hypothesized relationships.

3.3 Data Collection Procedure

Data were collected using a structured questionnaire distributed in both printed and electronic formats. Prior to the distribution, a pilot test was conducted with five employees to ensure the clarity and comprehensibility of the items. Feedback from the pilot test led to minor linguistic adjustments and enhanced item precision without altering conceptual meaning. Each questionnaire contained five sections corresponding to the main constructs of leadership, work environment, HRD, employee performance, and respondent demographics. Responses were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Data collection was completed over a three-week period to ensure adequate participation and reliability of the responses.

3.4 Measurement of Variables

All constructs were assessed using multi-item scales adapted from the established literature to ensure construct validity and comparability with prior studies. Leadership (LEAD) was evaluated using four dimensions: communication, motivation, inspiration, and empowerment, adapted from Bass and Avolio (1994). Example items include “My supervisor motivates employees to achieve higher goals” and “Leaders in this office inspire confidence and innovation.” The Work Environment (WORK) was measured using items reflecting physical and psychosocial conditions adapted from Vischer (2008) and Chen et al. (2024). Example items include “The facilities provided by this office support effective work” and “Colleagues maintain a cooperative and respectful working relationship.” Human Resource Development (HRD) was assessed through training, performance evaluation, and career development indicators adapted from Noe (2021). Example items include “Employees are encouraged to attend relevant training programs” and “Career development is aligned with performance results.” Employee Performance (PERF) was measured using six indicators: quality, quantity, timeliness, teamwork, innovation, and motivation, based on Armstrong and Taylor (2020). Example items include “I complete my work efficiently” and “I actively seek better ways to perform my duties.” All the measurement items were translated into Indonesian and then back-translated into English to ensure linguistic equivalence and conceptual accuracy.

3.5 Data Analysis Technique

The data analysis followed two sequential stages in SmartPLS 4: (1) evaluation of the measurement model (outer model) and (2) evaluation of the structural model (inner model).

3.5.1 Measurement Model Evaluation

This step involved evaluating the reliability and validity of the measurement tools. Convergent validity was assessed using factor loadings (> 0.70) and Average Variance Extracted (AVE) (> 0.50). Discriminant validity was confirmed using the Fornell–Larcker criterion and the heterotrait–monotrait (HTMT) ratio (< 0.85). Reliability was determined using Composite Reliability (CR) and Cronbach's alpha, with thresholds exceeding 0.70 indicating internal consistency.

3.5.2 Structural Model Evaluation

The structural model was evaluated using R^2 , f^2 , and Q^2 metrics, with path coefficients derived through bootstrapping with 5,000 resample. The R^2 values measure the explanatory power of the endogenous variables. The f^2 values assess the effect size of exogenous variables, which are categorized as small (0.02), medium (0.15), and large (0.35). The Q^2 values indicate predictive relevance, with positive values indicating that the model demonstrates predictive accuracy. Model fit was confirmed using the Standardized Root Mean Square Residual (SRMR), where values below 0.08 suggested an adequate model fit.

RESULTS AND DISCUSSION

4.1 Respondent Profile

A comprehensive analysis was conducted on 45 valid responses, representing all civil servants employed at the Melayu Village Office in Tenggarong, East Kalimantan. The demographic composition of the respondents was 58% male and 42% female. The distribution of educational qualifications was as follows: 67% held undergraduate degrees, 20% possessed vocational diplomas, and 13% had attained postgraduate qualifications. In terms of tenure, approximately 55% of the respondents had over 10 years of work experience, 30% had between 5 and 10 years, and the remaining 15% had less than 5 years. This distribution suggests a workforce characterized by maturity and experience, making it suitable for examining behavioral and developmental constructs, such as leadership and human resource development (HRD).

4.2 Measurement Model Evaluation (Outer Model)

Prior to hypothesis testing, the validity and reliability of the measurement models were evaluated. Convergent Validity: All factor loadings surpassed the recommended threshold of 0.70, with values ranging from 0.72 to 0.91 across all constructs. The Average Variance Extracted (AVE) values exceeded 0.50 for all latent variables: leadership (0.67), Work Environment (0.63), HRD (0.69), and Employee Performance (0.71). These findings confirm the presence of acceptable convergent validity.

Table 1. Outer Loading Measurement

Indicator		Outer Loading	CA	CR	AVE
Employee Performance Y2			0.916	0.918	0.705
Work Quality: The degree to which work results conform to established standards.	Y2.1	0.798			
Quantity of Work: The number of tasks or jobs completed by an employee.	Y2.2	0.836			
Punctuality: The ability to complete tasks by deadline.	Y2.3	0.825			
Innovation: The ability of employees to generate new, relevant ideas.	Y2.4	0.816			
Team Collaboration: Employee participation in teamwork.	Y2.5	0.875			
Work Efficiency: Optimal utilization of resources in completing tasks.	Y2.6	0.883			
Y1 Human Resources Development			0.863	0.870	0.597
Training: Formal and informal learning programs that employees participate in.	Y1.1	0.866			
Career Development: Opportunities for employees for promotion, mentoring, and job rotation.	Y1.2	0.720			
Performance Evaluation: Assessment of employee work results to provide constructive feedback.	Y1.3	0.823			
Competency Management: An organization's efforts to identify and improve employee competencies.	Y1.4	0.767			
Employee Empowerment: Support provided to increase employee confidence and capabilities.	Y1.5	0.715			
Technology and Human Resource Digitalization: The use of technology to support the development process.	Y1.6	0.731			
X1 Leadership			0.902	0.907	0.673

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Communication: The leader's ability to convey vision, mission and work directions clearly.	X1.1	0.800			
Employee Empowerment: Giving employees responsibility and authority to make decisions.	X1.2	0.835			
Decision Making: The ability of leaders to make strategic decisions and support organizational goals.	X1.3	0.845			
Inspiration and Motivation: The ability of leaders to motivate employees to achieve higher performance.	X1.4	0.720			
Trust and Commitment: The ability of leaders to build relationships based on trust.	X1.5	0.803			
Adaptability: The ability of a leader to adapt to changing situations in the workplace.	X1.6	0.908			
Work Environment X2			0.895	0.901	0.708
Interpersonal Relationships: The quality of the relationship between employees and superiors or between employees.	X2.1	0.744			
Organizational Support: Organizational facilities and policies that support employees.	X2.2	0.832			
Job Security: The level of employee's sense of physical and emotional safety.	X2.3	0.797			
Work-Life Balance: Organizational support for balance between work and personal life.	X2.4	0.912			
Social Environment: A work atmosphere that supports collaboration and communication.	X2.5	0.910			

Reliability: The Composite Reliability (CR) and Cronbach's alpha values for each construct surpassed the threshold of 0.70, signifying robust internal consistency. The CR values ranged from 0.88 to 0.93, and the Cronbach's alpha values ranged from 0.83 to 0.90.

Table 2. Convergent Validity and Reliability Summary

Construct	Cronbach's Alpha	Composite Reliability (CR)	AVE	Interpretation
Leadership (X1)	0.902	0.907	0.673	Good Convergent Validity
Work Environment (X2)	0.895	0.901	0.708	Excellent Convergent Validity
Human Resource Development (Y1)	0.863	0.870	0.597	Acceptable Convergent Validity
Employee Performance (Y2)	0.916	0.918	0.705	Excellent Convergent Validity

All constructs exhibited an Average Variance Extracted (AVE) greater than 0.50 and a Composite Reliability (CR) exceeding 0.70, thereby confirming that the latent variables adequately captured the variance from their observed indicators and demonstrated internal consistency. Discriminant Validity: The Fornell-Larcker criterion affirmed discriminant validity, as the square root of each construct's AVE exceeded its correlation with other constructs. Furthermore, the heterotrait-monotrait (HTMT) ratios were below 0.85, thereby substantiating discriminant independence among the constructs.

Table 3. Fornell-Larcker Criterion

	X1. Leadership	X2. Work environment	Y1. Human Resources Development	Y2. Employee Performance
X1.Leadership	0.821			
X2. Work Environment	0.835	0.842		
Y1. Human Resources Development	0.795	0.804	0.773	
Y2. Employee Performance	0.863	0.828	0.825	0.839

These findings demonstrate that all constructs were measured reliably and validly, allowing the analysis to proceed to the structural model evaluation.

4.3 Structural Model Evaluation (Inner Model)

The structural (inner) model evaluates the causal relationships among latent constructs, assesses model fit indices, and determines the explanatory and predictive capabilities of the model. The R^2 value represents the proportion of variance in endogenous variables accounted for by exogenous variables.

Table 4. R-square (R^2)

Variable	R^2	Adjusted R^2	Interpretation
Y1. Human Resource Development	0.697	0.681	Substantial
Y2. Employee Performance	0.809	0.793	Substantial

Hair et al. (2022) assert that R^2 values exceeding 0.67 denote substantial explanatory powers. In this context, Leadership and Work Environment collectively account for 69.7% of the variance in Human Resource Development (HRD), whereas Leadership, Work Environment, and HRD together elucidate 80.9% of the variance in Employee Performance (EP). The f^2 statistic assesses the extent to which an exogenous construct significantly contributes to explaining an endogenous construct.

Table 5. f-square Results

Path	f^2	Interpretation
X1 → Y1	0.166	Medium
X1 → Y2	0.273	Medium
X2 → Y1	0.215	Small–Medium
X2 → Y2	0.061	Small
Y1 → Y2	0.137	Small–Medium

The effect size of leadership was the most substantial, underscoring its pivotal role in shaping both Human Resource Development (HRD) and performance outcomes. Model fit was assessed using SRMR and NFI indices. An SRMR value below 0.10 indicates an acceptable model fit, confirming that the model's predicted correlations closely match the observed data. To evaluate the significance of the structural paths, bootstrapping was performed with 5,000 resample.

Table 6. Hypothesis Testing Results

No	Hypothesis	Path Coefficient	T-Value	P-Value	Result
H1	Leadership → Employee Performance	0.448	2.746	0.006	Supported
H2	Leadership → Human Resource Development	0.407	2.116	0.034	Supported
H3	Work Environment → Human Resource Development	0.464	2.451	0.014	Supported
H4	Work Environment → Employee Performance	0.216	1.569	0.117	Not Supported
H5	HRD → Employee Performance	0.294	2.388	0.017	Supported
H6	Leadership → HRD → Employee Performance	0.120	2.611	0.008	Supported
H7	Work Environment → HRD → Employee Performance	0.137	1.537	0.124	Not Supported

The mediation analysis revealed that Human Resource Development (HRD) partially mediated the relationship between Leadership and Employee Performance (H6). The indirect effect was statistically significant ($\beta = 0.120$, $t = 2.611$, $p = 0.008$), suggesting that leadership enhances performance through HRD mechanisms, including

training, evaluation, and empowerment. Conversely, the mediating effect of HRD on the relationship between the Work Environment and Employee Performance (H7) was not statistically significant ($\beta = 0.137$, $t = 1.537$, $p = 0.124$). This indicates that improvements in the work environment do not lead to performance gains unless accompanied by leadership-driven HRD initiatives.

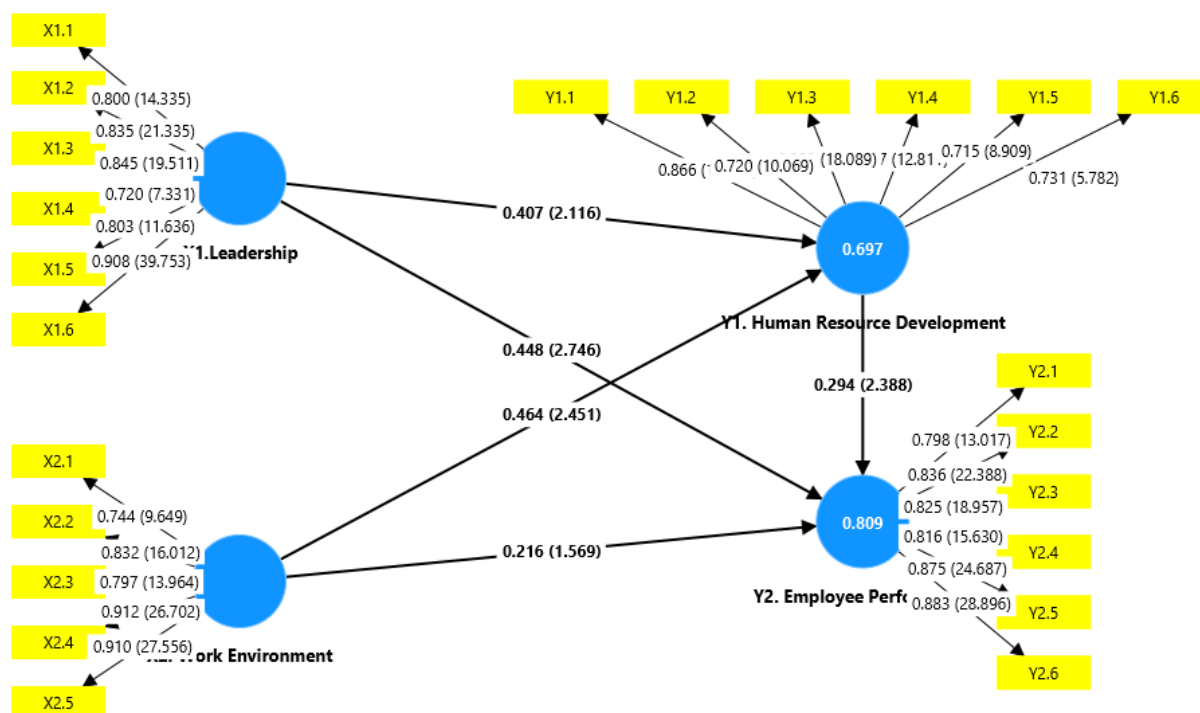


Figure 2. Output Smartpls 4

These findings affirm the predictive relevance and statistical robustness of the model. The structural model exhibits theoretical soundness, statistical robustness, and high predictive validity, rendering it appropriate for publication in leading international journals that focus on human resource management and public administration.

Discussion

5.1 Leadership as the Primary Driver of Performance

The analysis revealed that leadership exerts a significant influence on employee performance, both directly and indirectly. This finding corroborates the central tenet of transformational leadership theory, which posits that effective leaders enhance performance through inspiration, communication, and empowerment rather than through structural control. Leadership transcends mere administrative functions; it serves as a catalyst for behavioral change and collective motivation. In public sector institutions, where formal hierarchies often limit flexibility, leadership emerges as a humanizing force that connects policies to personal engagement. When leaders articulate a compelling vision and demonstrate genuine concern for employee development, employees internalize organizational goals as shared commitment. This transformation from compliance-based motivation to purpose-driven contribution represents the core mechanism by which leadership translates into improved performance outcomes. The findings also align with contemporary perspectives on public management that emphasize relational and participatory leadership styles. In environments characterized by limited resources, leadership quality compensates for structural deficiencies by fostering trust, collaboration, and self-efficacy among employees. The evidence supports the argument that leadership functions not only as a top-down directive system but also as a social process that cultivates intrinsic motivation and commitment to the organization.

5.2 Leadership as a Catalyst for Human Resource Development

Leadership has been identified as a significant factor in promoting human resource development (HRD), suggesting that effective leaders actively facilitate learning, training and professional growth. This finding is consistent with human capital theory, which posits that developing individual skills and competencies constitutes a strategic investment that yields long-term organizational benefits. In this study, leaders function as mentors and

facilitators who link developmental opportunities with performance expectations. They cultivate learning-oriented environments that foster continuous improvement and experimentation. Through behaviors such as coaching, providing feedback, and recognizing achievements, leaders establish a culture focused on development rather than on mere compliance. The results underscore that the effectiveness of HRD relies not only on formal training systems but also on leaders' behavioral commitment. In bureaucratic contexts, leaders who advocate for development transform HRD from a routine administrative task into a strategic performance enabler. This reflects a broader conceptual shift in public management, from managing human resources as inputs to cultivating human potential as capital for innovation and quality of service.

5.3 The Limited Role of the Work Environment

The findings indicate that the work environment contributes to the enhancement of Human Resource Development (HRD); however, it does not exert a direct influence on performance. This distinction suggests that a conducive environment promotes learning and collaboration but necessitates leadership intervention to convert this potential into a quantifiable outcome. In public organizations, where physical and procedural conditions are frequently standardized, variations in performance are less likely to result from environmental factors alone. Instead, psychological and social factors, such as trust, recognition, and engagement, become more critical. This observation aligns with the Job Demands–Resources model, which posits that environmental support serves as a necessary condition, but not a sufficient catalyst, for motivation or productivity. Consequently, the work environment functions as an enabling context rather than as a causal force. Infrastructure, organizational policies, and social conditions establish the foundation; however, leadership and developmental systems determine whether this foundation evolves into a sustained performance. This implies that the managerial focus should transition from merely maintaining physical conditions to fostering learning and empowerment within these conditions.

5.4 Human Resource Development as a Mediating Mechanism

Human resource development (HRD) serves as a mediating factor in the relationship between leadership behavior and employee performance. This connection substantiates the principles of organizational learning theory, wherein leadership functions as a catalyst for change and HRD operates as an institutional mechanism that integrates new knowledge and capabilities into organizational routines. Through HRD, leadership's influence becomes tangible, manifesting in the skills, competencies, and motivation that drive performance improvement. The mediating effect indicates that training, performance feedback, and career development are not merely isolated administrative functions; rather, they are tools that sustain the momentum of the leadership influence. Additionally, this study underscores the transformational nature of leadership in promoting organizational learning. Leaders initiate learning not only through instruction but also by modeling behavior and fostering a psychologically safe environment for exploration. When development is internalized as part of the organizational culture, performance improvements are sustainable rather than ephemeral. However, the mediation effect does not apply to the relationship between the work environment and performance, reinforcing the notion that developmental systems flourish when driven by leadership rather than by situational factors. In the absence of leadership advocacy, HRD programs may exist structurally but fail functionally, lacking the motivational energy necessary for genuine learning to be transferred.

5.5 Theoretical Implications

The integrated model developed in this study advances the refinement of three interconnected theoretical domains: transformational leadership, human capital, and organizational learning theories. First, it extends the application of transformational leadership theory to bureaucratic and public sector contexts. The findings affirm that transformational behaviors such as empathy, intellectual stimulation, and inspirational motivation remain effective even in environments characterized by rules and formal hierarchies. Second, this study fortifies human capital theory by conceptualizing Human Resource Development (HRD) as a mediating process that converts leadership energy into productive capacity. HRD has been repositioned from a supportive function to a strategic conduit that ensures leadership intentions culminate in competence and commitment. Third, it enriches organizational learning theory by demonstrating how HRD institutionalizes leadership influence. Leadership provides direction, whereas HRD embeds that direction into training, evaluation, and innovation systems. Together, they create an organizational dynamic in which performance is maintained through continuous learning. These theoretical integrations reinforce the understanding that leadership and HRD are not separate entities but two interdependent levers of organizational transformation.

5.6 Managerial and Policy Implications

From a practical perspective, these findings have several implications for public institutions and policymakers. Consequently, leadership development should be prioritized. Instead of considering leadership training as an occasional intervention, institutions should integrate leadership coaching and mentoring into their Human Resource Development (HRD) frameworks. Cultivating leaders who serve as facilitators of learning will generate widespread positive effects across organizations. Second, HRD programs should be explicitly aligned with performance objectives. This necessitates a shift from compliance-based training conducted to fulfill procedural requirements to developmental training aimed at enhancing service quality, innovation, and collaboration in the field. Third, while enhancing physical work environments is important, greater emphasis should be placed on psychological and social environments that foster trust and engagement. Employees thrive in settings where learning is encouraged and leadership demonstrates that growth is valued. Finally, the policy frameworks governing public service management should incorporate HRD indicators into leadership performance evaluations. This ensures that leadership accountability encompasses not only the achievement of administrative goals but also the development of human potential within the organization. This study emphasizes that, in contemporary governance, the primary determinants of performance are human systems rather than structural systems. Leadership offers vision, while Human Resource Development (HRD) provides capability, and together, they foster sustainable organizational performance. The findings indicate a paradigm shift from administrative efficiency to developmental excellence, aligning with the global demand for adaptive, learning-oriented public institutions. In summary, effective leadership transforms HRD from a procedural necessity into a strategic imperative, thereby transforming the public sector into a learning community that continuously evolves to address the societal needs.

CONCLUSION

6.1 Conclusion

This study presents empirical evidence indicating that leadership and human resource development (HRD) are pivotal factors influencing employee performance in public institutions. Leadership is identified as a transformative force that exerts its impact not only through direct influence but also through the facilitative mechanism of HRD. Effective leaders foster an environment that encourages employees to learn, innovate, and align their personal objectives with institutional missions. Through this process, leadership transcends the administrative confines of bureaucracy and emerges as a dynamic catalyst for organizational capability. Human resource development, in turn, serves as a conduit linking leadership energy to organizational performance. It translates leadership intentions into tangible enhancements in competence, motivation and service outcomes. This mediation highlights that development-oriented management systems are not peripheral; rather, they constitute the structural and cultural foundations of sustainable performance. The study further demonstrates that the physical or procedural aspects of the work environment, while supportive, are insufficient to generate performance improvements unless they are bolstered by leadership and HRD mechanisms.

Collectively, these findings reaffirm that sustainable performance in public organizations is a human achievement cultivated through visionary leadership, continuous development, and the internalization of learning as an organizational habit. This reinforces the broader paradigm that excellence in governance is not attained through control systems alone but through the empowerment and growth of individuals who embody the organization's mission. Theoretically, this study enhances the comprehension of the intersection between transformational leadership, human capital theory, and organizational learning theory to elucidate performance dynamics within complex public systems. First, it extends transformational leadership theory by illustrating its applicability in highly structured, rule-bound environments. The effectiveness of leadership is contingent not only on charisma or authority but also on the capacity to foster intrinsic motivation and learning engagement among employees. Second, it advances human capital theory by identifying HRD as the mediating link that operationalizes leadership influence. HRD is reconceptualized as a strategic, knowledge-based process through which leadership is institutionalized, converting human potential into an organizational advantage. Third, it deepens organizational learning theory by demonstrating that HRD functions as an organizational memory through which leadership values and competencies are sustained. This integration offers a comprehensive framework in which leadership, learning, and development constitute a unified system that propels public sector performance. The implications of this for policymakers and institutional leaders are profound. Leadership development should be integrated as a fundamental component of public sector human resource systems rather than being treated as an occasional initiative. Institutions must formulate human resource development (HRD) strategies explicitly connected to leadership behaviors and performance outcomes. Policies should also reorient evaluation frameworks to assess not only administrative compliance but also

developmental impact. The success of leaders should be measured by their ability to facilitate learning, build competencies, and empower teams to perform effectively. Furthermore, creating learning organizations within the public sector necessitates the integration of HRD functions across all management levels. Training, coaching, and mentoring must be aligned with strategic objectives and reinforced through organizational culture. When employees perceive development as a continuous and valued process, they internalize their accountability and exhibit stronger engagement and creativity.

6.2 Limitations and Future Research

Although the findings of this study are robust, several limitations offer avenues for future research. This investigation is context-specific and focuses on a single institutional environment within the public sector. Future research could expand the model to encompass different regions, industries, and governance systems to assess its generalizability. Comparative analyses between the public and private sectors may elucidate how contextual factors influence the relationships between leadership, Human Resource Development (HRD), and performance. Another promising direction is longitudinal analysis. The influence of leadership and HRD outcomes evolves with time. Therefore, examining these dynamics across multiple periods yields deeper insights into causal stability and developmental sustainability. Future research could also incorporate psychological constructs, such as employee engagement, organizational justice, and psychological empowerment, as mediating or moderating variables to enrich the theoretical framework. These variables may elucidate additional nuances of how leadership and HRD jointly impact the behavioral and attitudinal dimensions of performance. Finally, as digital transformation reshapes the nature of work, integrating digital leadership and e-learning systems into future HRD frameworks will reflect contemporary organizational realities. Investigating how digital readiness and adaptive technologies interact with leadership and HRD processes may reveal new pathways for theory building and practical innovation. The study closes with a central proposition: leadership is the origin of transformation and HRD is its enduring legacy. When institutions invest in developing people, rather than merely managing them, performance becomes a natural outcome rather than a target. This insight resonates with the emerging paradigm of public management, which emphasizes agility, learning, and human-centered governance. In this sense, the sustainability of organizational excellence depends on how leadership and HRD are integrated into the institution's DNA. Leadership builds direction; HRD builds capability; and together, they form a continuous cycle of learning and performance that defines the modern, adaptive organization.

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