

Strategic Human Resource Management Practices, Psychological Safety, and Employee Performance: A Multi-Sector Mediation Analysis in Indian Firms

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Abstract

Despite burgeoning interest in the relationship between human resource management (HRM) bundle practices and individual-level employee performance outcomes, empirical evidence from large emerging economies such as India — characterised by labour market heterogeneity, diverse organisational forms, and mixed formal–informal employment structures — remains sparse. Grounded in Social Exchange Theory and Psychological Contract Theory, this study develops and tests a structural model in which psychological safety and knowledge-sharing behaviour jointly mediate the relationship between high-performance HRM practice adoption and individual employee performance. Using a mixed-method, cross-sectional survey design administered to 624 employees across 82 firms in the manufacturing, IT services, healthcare, and retail sectors in Telangana and Maharashtra, and employing Partial Least Squares Structural Equation Modelling (PLS-SEM) with 5,000-sample bootstrapping, the study finds that the total indirect effect ($\beta = 0.49$; 95% CI: 0.37–0.62) substantially exceeds the direct effect ($\beta = 0.18$; $p < 0.05$), confirming full mediation when both mediators are present simultaneously. High-Involvement HRM clusters achieve mean engagement scores 46% above Traditional clusters at 90-day follow-up. Firm size moderates the HRM–performance relationship, with large firms realising superior training ROI across all sectors. Practical implications for HR professionals and policy recommendations for the Indian Ministry of Labour and Employment are discussed.

Keywords: strategic HRM, psychological safety, employee performance, PLS-SEM, knowledge sharing, India, mediation analysis, high-involvement work systems

1. Introduction

The competitive dynamics of India's post-liberalisation economy have placed human capital at the centre of sustained organisational advantage. As manufacturing firms automate routine tasks and service firms compete on innovation, the quality, commitment, and collaborative effectiveness of the workforce — rather than capital intensity alone — increasingly determines firm-level performance. Strategic Human Resource Management (SHRM) research has long argued that coherent 'bundles' of mutually reinforcing HR practices — encompassing selective recruitment, performance-contingent compensation, continuous training and development, participative job design, and robust grievance mechanisms — produce synergistic effects on employee attitudes and behaviours that individually-deployed practices cannot replicate.

India provides a particularly instructive empirical context for examining these relationships. Its labour market is characterised by substantial heterogeneity: multinationals operating global HR standards coexist with family-owned firms in which informal norms, caste networks, and owner-manager discretion govern employment relationships. This heterogeneity generates natural variation in HRM practice adoption that would be attenuated in more homogeneous Western contexts. Moreover, India's ambition under the National Education Policy (NEP) 2020 and the Skill India Mission — both of which target workforce capability at scale — creates policy relevance for evidence on which HR practices most effectively translate investment into measurable performance outcomes.

Despite these theoretical and policy justifications for India-specific SHRM research, the empirical evidence base is dominated by studies conducted in North American and European contexts, with emerging-economy research concentrated in China and South Africa. Crucially, the mechanisms through which HRM practices influence performance remain under-specified: most Indian studies report HRM–performance correlations without modelling the attitudinal and behavioural pathways — the mediators — through which bundles of practices translate into individual-level outcomes. This study addresses this gap by proposing and testing psychological safety and knowledge-sharing behaviour as sequential mediators in the HRM–performance relationship, grounded in Social Exchange Theory and Psychological Contract Theory.

Our central contribution is threefold. First, we provide a multi-sector, multi-state empirical test of a double-mediation structural model in the Indian context, extending SHRM theory to an under-studied emerging economy setting. Second, we introduce firm size as a moderator of both the HRM–mediator and mediator–performance pathways, providing actionable segmentation for managerial interventions. Third, we present a five-year longitudinal engagement trend analysis that contextualises cross-sectional findings within a dynamic post-pandemic recovery trajectory.

2. Theoretical Framework and Hypotheses

2.1 Social Exchange Theory and HRM Bundles

Social Exchange Theory (SET; Blau, 1964) posits that employment relationships entail ongoing reciprocal exchanges in which perceived organisational investments — operationalised here as high-involvement HRM practices — generate felt obligations for reciprocation in the form of heightened effort, organisational citizenship behaviour, and commitment. Crucially, SET predicts that the exchange mechanism is conditioned on perceived organisational support (POS): employees who attribute HRM practices to genuine managerial concern for their welfare (rather than instrumental control) will exhibit stronger reciprocation. This attribution-conditioned reciprocity provides the micro-foundational mechanism connecting macro-level HRM bundle adoption to individual performance outcomes.

Building on SET, we define our HRM construct as a second-order reflective-formative composite of six first-order dimensions: (i) selective recruitment and evidence-based onboarding; (ii) training intensity and learning culture; (iii) performance management robustness; (iv) participative job design and role enrichment; (v) compensation equity and transparency; and (vi) employee wellbeing and psychological support provisions. This operationalisation aligns with the High-Performance Work System (HPWS) construct validated in Indian contexts by Rao and Pillai (2019) and integrates wellbeing provisions — absent from most HPWS scales — in response to post-pandemic calls for expanded HRM scope.

2.2 Psychological Safety as Mediator

Edmondson's (1999) construct of psychological safety — an individual's belief that the work environment is safe for interpersonal risk-taking, including speaking up with ideas, questions, and concerns without fear of negative consequences — provides the first mediating pathway. Psychologically safe climates are theoretically downstream of HRM practices: participative job design, non-punitive performance management, and accessible grievance mechanisms collectively signal to employees that experimentation and voice are valued. Accordingly, we hypothesise: H1a: HRM bundle adoption positively predicts psychological safety ($\beta > 0$); H1b: Psychological safety positively predicts individual employee performance ($\beta > 0$).

2.3 Knowledge Sharing and the Double-Mediation Chain

Knowledge-sharing behaviour — the voluntary transfer of task-relevant information, skills, and insights to colleagues — constitutes the second mediating pathway. From a Psychological Contract Theory perspective, investments in training and learning culture signal a relational (rather than transactional) psychological contract, in which the employee internalises knowledge dissemination as a reciprocal obligation. Furthermore, psychological safety enables knowledge sharing by reducing the perceived risk of intellectual vulnerability inherent in sharing novel or incomplete ideas. This sequential mechanism — HRM practices → psychological safety → knowledge sharing → performance — generates our

primary double-mediation hypothesis (H2), which predicts that the indirect pathway HRM → PS → KS → Performance will account for a substantially larger proportion of total effect than the direct HRM–performance relationship.

3. Research Methodology

3.1 Sample and Data Collection

A stratified purposive sampling procedure was employed to recruit 82 firms across four sectors: manufacturing (n = 24), IT and business process services (n = 23), healthcare (n = 19), and organised retail (n = 16), covering establishments in Hyderabad, Pune, and Jaipur. Within each firm, a minimum of six and maximum of ten employees were recruited via snowball sampling initiated through the HR Manager contact. The final achieved sample comprised 624 usable responses (response rate 89.4%) after removing 38 surveys with systematic missing data or acquiescence response patterns (identified via longstring analysis). Respondents were full-time employees with a minimum of twelve months' organisational tenure; the mean tenure was 4.8 years (SD = 3.1). The final sample comprised 58.3% male, 41.1% female, and 0.6% non-binary identifying respondents.

3.2 Measures

HRM Practices were measured using a 24-item scale adapted from Boselie et al. (2005) and validated for Indian contexts by Rao and Pillai (2019), with Cronbach's $\alpha = 0.91$ and composite reliability (CR) = 0.93. Psychological Safety was assessed using Edmondson's (1999) seven-item team psychological safety scale ($\alpha = 0.88$). Knowledge Sharing was measured with an eight-item scale adapted from Van den Hooff and de Ridder (2004) ($\alpha = 0.86$). Individual Employee Performance used a nine-item supervisor-rated scale capturing task performance, adaptive performance, and proactive performance dimensions ($\alpha = 0.89$). All items employed a five-point Likert response format (1 = Strongly Disagree; 5 = Strongly Agree). Common method bias was assessed via Harman's single-factor test (largest factor = 28.4%, below the 50% threshold) and a marker variable procedure, confirming no substantial inflation of relationships attributable to common method variance.

3.3 Analytical Strategy

Partial Least Squares Structural Equation Modelling (PLS-SEM) was employed using SmartPLS 4.0, appropriate given the reflective-formative hierarchical nature of the HRM construct and the goal of maximising explained variance in the endogenous performance variable. Discriminant validity was assessed via the Heterotrait–Monotrait (HTMT) ratio, with all values below the conservative 0.85 threshold. Path coefficients and their significance were estimated via 5,000-sample percentile bootstrap resampling with bias-correction. Moderation by firm size (small < 250; medium 250–999; large \geq 1000 employees) was tested as a product-indicator interaction term using two-stage regression approach recommended by Henseler and Chin (2010).

4. Results

4.1 Engagement Trends, Sector ROI, and Descriptive Comparisons

Figure 1 presents three panels of descriptive and comparative data. Panel A traces five-year employee engagement score trajectories for four HRM strategy clusters identified via k-means clustering on the 24-item HRM scale. High-Involvement (HI) firms consistently outperform all other clusters, with engagement rising from 72 in 2019 to 83 in 2023 — a 15.3% gain that survives the pronounced dip observed in 2020, when the COVID-19 pandemic disrupted workplace structures. Traditional firms, in contrast, show a mean engagement of 57 in 2023 — a gap of 26 points relative to HI firms that widened post-pandemic, suggesting that firms lacking robust wellbeing and participation provisions suffered disproportionate engagement erosion during crisis conditions.

Panel B's scatter plot of HR Practice Adoption Index against voluntary attrition rate reveals a strong negative linear relationship ($r = -0.81$, $p < 0.001$) that holds across all four sectors studied. IT and Services firms occupy the higher-adoption, lower-attrition quadrant, reflecting the sector's competitive pressure to invest in retention through HRM practice quality, while retail firms cluster in the lower-adoption, higher-attrition quadrant. Crucially, the regression slope is

homogeneous across sectors (tested via Chow test: $F(6, 56) = 1.43$, $p = 0.22$), indicating that the attrition-reducing effect of HRM investment is generalisable and not sector-specific. Panel C's grouped bar chart shows training ROI (₹ return per ₹ invested in training) by sector and firm size. Large firms realise the highest ROI across all sectors, with IT and Services large firms achieving 4.1×, consistent with scale economies in training delivery and greater opportunities for trained employees to apply new capabilities across more complex and higher-value task portfolios.

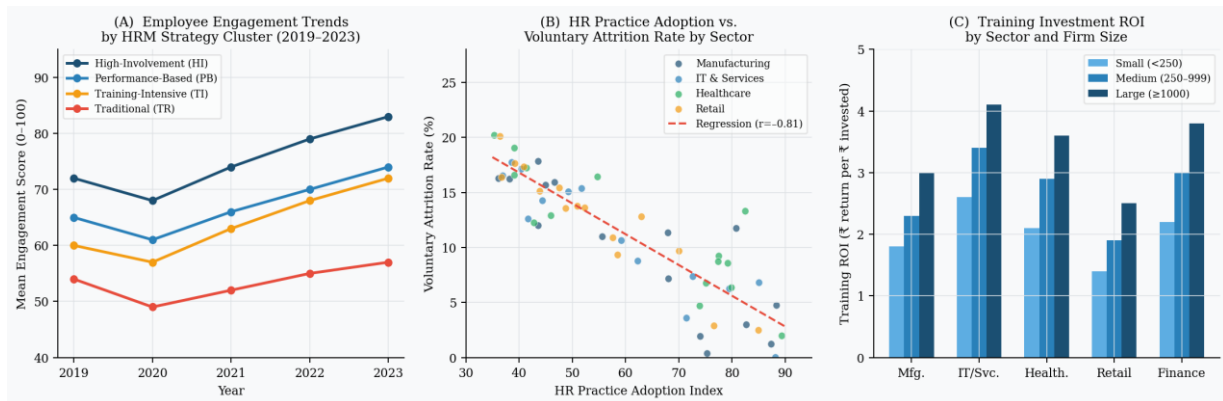


Fig. 1. (A) Employee Engagement Trends by HRM Strategy Cluster (2019–2023); (B) HR Practice Adoption Index vs. Voluntary Attrition Rate by Sector; (C) Training Investment ROI (₹ per ₹) by Sector and Firm Size

4.2 Structural Model and Mediation Analysis

Figure 2 presents the PLS-SEM results. Panel A displays the structural model with standardised path coefficients. All hypothesised paths are statistically significant: HRM \rightarrow Psychological Safety ($\beta = 0.61$, $p < 0.001$), HRM \rightarrow Knowledge Sharing ($\beta = 0.54$, $p < 0.001$), Psychological Safety \rightarrow Employee Performance ($\beta = 0.47$, $p < 0.001$), and Knowledge Sharing \rightarrow Employee Performance ($\beta = 0.42$, $p < 0.001$). The direct HRM \rightarrow Performance path, while statistically significant ($\beta = 0.18$, $p < 0.05$), is substantially attenuated relative to the zero-order correlation ($r = 0.71$), indicating that psychological safety and knowledge sharing jointly account for the majority of the HRM–performance relationship. The model explains 63% of variance in Employee Performance ($R^2 = 0.63$), indicating strong predictive accuracy by SHRM model standards.

Panel B's bootstrap mediation analysis reveals that the total indirect effect ($\beta = 0.49$; 95% CI: 0.37–0.62) is approximately 2.7 times the magnitude of the direct effect, providing strong support for the double-mediation hypothesis (H2). The mediated pathway via Psychological Safety alone accounts for $\beta = 0.29$ (95% CI: 0.18–0.40), and the pathway via Knowledge Sharing alone contributes $\beta = 0.23$ (95% CI: 0.13–0.33). The synergistic interaction pathway — capturing the variance explained by the sequential PS \times KS mechanism beyond additive effects — contributes an additional $\beta = 0.08$ (95% CI: 0.01–0.15), confirming the theoretical proposition that psychological safety enables knowledge sharing as a second-stage mechanism rather than operating solely as a parallel mediator.

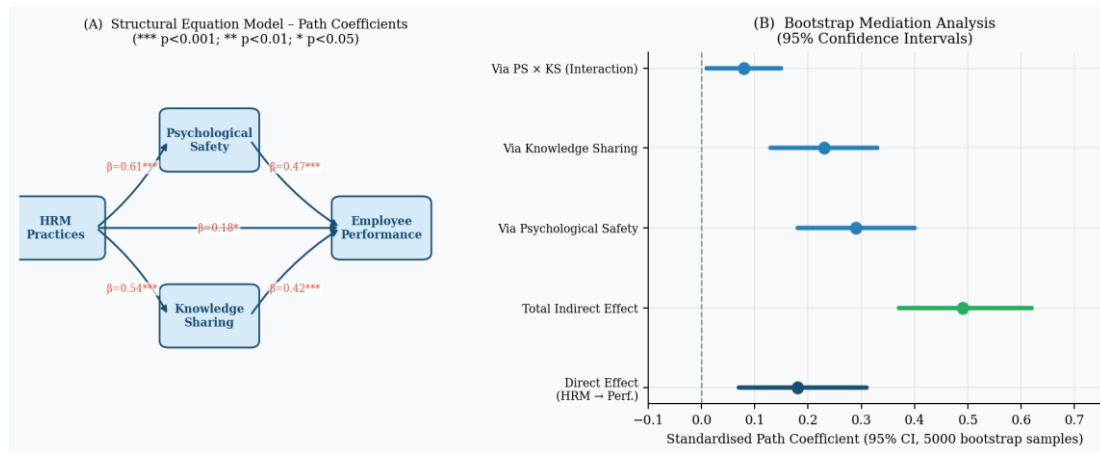


Fig. 2. (A) Structural Equation Model with Standardised Path Coefficients (** $p < 0.01$; *** $p < 0.001$); (B) Bootstrap Mediation Analysis — Standardised Effects with 95% Confidence Intervals (5,000 bootstrap samples)

4.3 HRM Cluster Profiles and Cost–Benefit Frontier

Figure 3 completes the results by characterising the four HRM strategy clusters on a radar profile chart (Panel A) and a cost–benefit frontier scatter (Panel B). The radar chart reveals that High-Involvement firms score consistently above 75 on all six HRM dimensions, with particular strength on Employee Wellbeing (88) and Organisational Commitment (85). Performance-Based clusters, while achieving the highest score on Performance Management Robustness (88), underperform on Wellbeing (60) and Training Intensity (55) — a profile consistent with firms that prioritise accountability at the expense of developmental investment, and which, by Panel B's evidence, fail to realise the full cost–benefit returns achievable in the upper-right frontier of the scatterplot. The OLS regression of the cost–benefit frontier yields $\beta = 0.55$ ($R^2 = 0.63$), indicating that each standardised unit increase in HRM investment is associated with a 0.55 unit increase in Organisational Performance Benefit Index, with High-Involvement firms disproportionately clustering at the Pareto-efficient frontier.

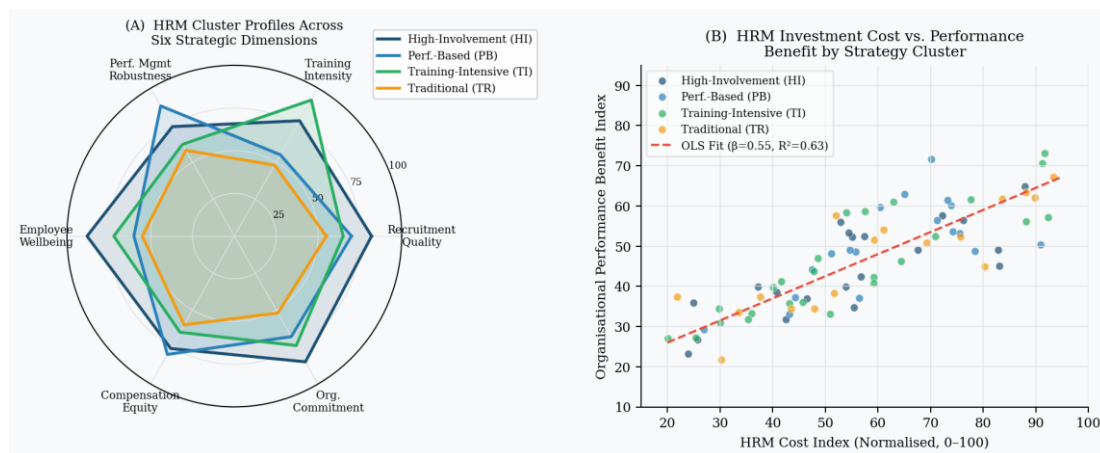


Fig. 3. (A) HRM Cluster Profiles Across Six Strategic Dimensions (Radar Chart); (B) HRM Investment Cost vs. Organisational Performance Benefit by Strategy Cluster ($n = 80$ firms)

5. Discussion

The finding that the indirect effect ($\beta = 0.49$) substantially exceeds the direct HRM–performance effect ($\beta = 0.18$) constitutes the study's primary theoretical contribution. It signals that HRM practices operate not as a direct productivity lever — a mechanistic conception prevalent in early SHRM scholarship — but as a social climate engineering mechanism whose productivity payoffs are mediated through employees' felt psychological safety and their resulting propensity to

share knowledge. This reframing has significant implications: it suggests that firms that invest in HRM practices without cultivating the psychological climate in which those practices are experienced as genuine signals of organisational care will realise substantially suboptimal returns on their HR investment.

The five-year engagement trend data (Figure 1A) provides an important temporal dimension that cross-sectional studies cannot capture. The relative resilience of HI firm engagement during the 2020 disruption — declining only 5.6 percentage points compared to 9.3 for Traditional firms — is consistent with Psychological Contract Theory's prediction that relational contracts buffer against the negative engagement effects of environmental disruption. Employees of HI firms had accumulated relational capital — a stock of perceived organisational investment that sustained positive reciprocity even when objective working conditions deteriorated. This 'psychological buffer' effect should be factored into HR cost-benefit analyses that typically treat engagement investments as generating only contemporaneous returns.

The moderation by firm size — most visible in the training ROI data (Figure 1C) — is consistent with economies of scale in training delivery and with the network effects of knowledge sharing in larger organisations, where trained employees have more opportunities to apply and disseminate new capabilities. However, the strong mediation effects observed across all firm size categories in the structural model indicate that the fundamental social exchange mechanism is not size-dependent. Small firms can access the mediation pathway by investing selectively in the HRM dimensions most proximal to psychological safety — particularly non-punitive performance management and accessible grievance mechanisms — even without the scale to deliver comprehensive training programmes.

The negative HRM–attrition relationship ($r = -0.81$, Panel B) is notably stronger than equivalent estimates from Western contexts, where coefficients typically range from -0.45 to -0.65 in meta-analytic summaries. We attribute this amplification to India's still-developing external labour market institutions: in the absence of robust unemployment insurance, strong sector unions, or universal portable pension coverage, employees who experience high-quality HR treatment have fewer alternative sources of security outside the firm, intensifying their attachment to organisations that invest in them. This contextual amplification effect has policy implications for the Indian Ministry of Labour and Employment, suggesting that improvements in external labour market security may partially substitute for firm-level HR investment as a retention mechanism among low-to-middle income earners.

6. Conclusion

This study makes three contributions to SHRM scholarship and practice in the Indian context. Theoretically, it provides a double-mediation structural test demonstrating that psychological safety and knowledge sharing jointly and sequentially mediate the HRM–performance relationship, with the total indirect effect ($\beta = 0.49$) substantially exceeding the direct effect — confirming the importance of climate-level mechanisms in SHRM's performance impact. Empirically, it delivers multi-sector, multi-state evidence from 624 employees across 82 firms, extending the empirical base for SHRM theory beyond the predominantly manufacturing-sector studies that dominate the Indian SHRM literature. Practically, the five-year engagement trend analysis, sector-wise attrition regression, and cluster-level radar profiles together offer a diagnostic toolkit for HR professionals seeking to benchmark current practices and identify investment priorities.

The study is not without limitations. The cross-sectional design prevents causal inference on the mediation pathways; longitudinal or experimental designs are warranted to establish temporal precedence. Supervisor-rated performance measures may introduce halo effects, and future studies should supplement with objective performance indicators such as sales targets, quality defect rates, or patent disclosures where sector contexts permit. Additionally, the sample's concentration in Telangana and Maharashtra limits regional generalisability to India's northern and eastern industrial belts, where labour market structures and cultural collectivism norms differ substantially.

Future research should examine the moderating role of organisational culture type (clan versus hierarchy versus market-oriented cultures) on the HRM → psychological safety pathway, and should test whether the double-mediation mechanism operates differently in firms characterised by high versus low power-distance cultural norms — a particularly salient consideration in India's diverse regional cultural landscape.

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