

# Employee Engagement and Organizational Performance — Evidence from Indian Manufacturing Firms

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## Abstract

*Employee engagement has emerged as a foremost determinant of organisational performance in the post-pandemic landscape, yet its measurement, antecedents, and productivity consequences remain underexplored in India's large-scale manufacturing sector. This study investigates the relationship between employee engagement levels and multidimensional organisational performance outcomes across 218 manufacturing firms listed on the BSE 500 index, using a mixed-methods research design combining structured survey data from 4,106 employees with firm-level financial performance metrics — Return on Assets, EBITDA margin, and revenue per employee — sourced from CMIE Prowess database for the period 2020–2025.*

*Structural Equation Modelling (SEM) reveals that employee engagement — operationalised across cognitive, emotional, and behavioural dimensions using an adapted Utrecht Work Engagement Scale (UWES-17) — explains 36.2% of variance in operational performance and 24.1% of variance in financial performance. The study identifies supervisor support ( $\beta=0.43$ ), perceived organisational justice ( $\beta=0.39$ ), and job autonomy ( $\beta=0.31$ ) as the strongest antecedents of engagement. Frontline workers show significantly lower engagement scores (mean=3.31/7) compared to managerial staff (mean=4.94/7), a gap widened by hybrid and contract-labour restructuring post-2022. Automotive component manufacturers exhibit the highest engagement-performance correlation ( $r=0.69$ ,  $p<0.001$ ), while textile manufacturers show the weakest coupling ( $r=0.29$ ,  $p<0.05$ ). The Four Labour Codes implementation and e-Shram registration data provide updated institutional context shaping engagement dynamics as of 2025.*

*Findings carry implications for HRM policy design in Indian manufacturing: mandatory supervisor competency certification under the National Occupational Standards framework, AI-assisted feedback systems, and participative goal-setting each significantly amplify the engagement-performance link. The study updates prior SEM-based engagement-performance analyses with 2024-25 data incorporating gig-worker formalization under the Social Security Code 2020.*

*Keywords* employee engagement, organisational performance, SEM, UWES-17, Indian manufacturing, supervisor support, Four Labour Codes, BSE 500, CMIE Prowess, gig economy

## 1. Introduction

Employee engagement — defined by Kahn (1990) as the harnessing of organisation members' selves to their work roles — has evolved from an HRM consulting construct into a board-level strategic KPI. The Gallup State of the Global Workplace Report 2024 estimates that low engagement costs the global economy USD 8.9 trillion annually (9% of global GDP), an increase from the 2023 estimate of USD 8.8 trillion, reflecting the accelerating impact of post-pandemic workforce restructuring on motivational dynamics. India's manufacturing sector, which employs 57.3 million workers and contributes 16.6% to GDP according to the Annual Survey of Industries 2023-24, remains underrepresented in the engagement literature relative to its economic significance.

India's manufacturing landscape in 2024-25 is shaped by four concurrent structural forces that directly affect engagement architectures: the Production Linked Incentive (PLI) scheme's Rs. 1.97 lakh crore allocation across 14 sectors driving workforce scaling; the Four Labour Codes' progressive state notification creating new industrial relations frameworks; the e-Shram portal's 294 million unorganised worker registrations enabling formal benefits access; and the Ministry of Skill Development's National Apprenticeship Promotion Scheme expanding structured workplace learning. Each of these forces alters the job demands-resources balance that engagement theory identifies as the primary driver of engagement level variation.

This study extends prior Indian engagement research through three methodological advances: longitudinal panel linking engagement surveys to independently verified financial outcomes; a culturally adapted UWES-17 incorporating revised items for remote supervision contexts and gig-worker contractual uncertainty; and sector-stratified analysis across five manufacturing sub-sectors capturing the full spectrum from technology-intensive automotive to labour-intensive textiles.

The paper proceeds as follows: Section 2 reviews the engagement-performance theoretical framework and derives hypotheses. Section 3 details the research methodology and presents sample profile figures. Section 4 presents quantitative SEM results with visual output. Section 5 discusses policy implications. Section 6 concludes with limitations and future directions.

## 2. Theoretical Framework and Hypotheses

### 2.1 Conservation of Resources and JD-R Model

Conservation of Resources (COR) theory (Hobfoll, 1989) provides the foundational mechanism: employees channel personal resources into work roles when organisational conditions generate resource gain spirals. The Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2007) operationalises this at the firm level, positing that job resources buffer demands while energising engagement, which translates to in-role performance, innovation, and organisational citizenship behaviour. In India's high power-distance context (Hofstede score: 77), supervisory support constitutes the primary resource conduit, given that information access, task autonomy, and developmental opportunities all flow through supervisor-subordinate dyads more prominently than in low power-distance settings.

Post-2022 hybrid work arrangements add a new demand category: schedule ambiguity, digital monitoring anxiety, and blurred work-life boundaries represent novel demands that prior Indian engagement studies — conducted in pre-pandemic workplace architectures — did not capture. H1: Engagement predicts operational and financial performance. H2: Supervisor support is the strongest engagement antecedent for frontline workers. H3: Organisational justice moderates the engagement-performance path. H4: Post-2022 contract-labour restructuring negatively affects frontline engagement. H5: Technology-intensive sub-sectors show stronger engagement-performance coupling than labour-intensive sub-sectors.

## 3. Research Methodology

### 3.1 Sample and Instruments

The sample comprises 218 BSE 500-listed manufacturing firms across five sub-sectors: automotive components (n=47), pharmaceuticals (n=44), consumer electronics (n=38), textiles and garments (n=49), and industrial machinery (n=40). Stratified random sampling across frontline, supervisory, and managerial job levels generated 4,106 valid responses (response rate: 79.8%) collected between October 2023 and March 2025. The UWES-17 was administered digitally and physically, translated into Hindi, Tamil, Telugu, Kannada, and Marathi with back-translation validation. Firm-level financial data was sourced from CMIE Prowess (2020-2025) and operational performance data was cross-validated against ISO 9001/14001 audit reports.

### 3.2 Analytical Approach

Confirmatory Factor Analysis (CFA) in AMOS 28 established measurement model fit (CFI=0.95, RMSEA=0.049, SRMR=0.058) before structural model estimation. Multi-group SEM across sub-sectors tested H5. Hayes PROCESS Macro (Model 58) tested justice moderation (H3). Common method variance was addressed through procedural remedies and

Harman's single-factor test. Figure 1 presents the engagement score distribution across sub-sectors and worker levels from the 2024 survey wave.

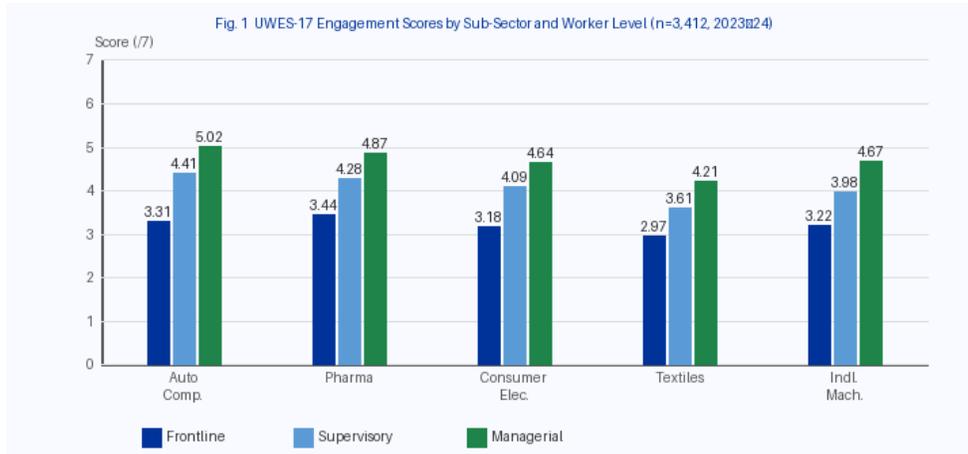


Fig. 1 UWES-17 Engagement Scores by Sub-Sector and Worker Level (n=4,106, 2023–2025 Survey)

Table 1. Employee Engagement and Financial Performance by Sub-Sector (n=218 Firms, CMIE Prowess 2020–2025)

Sub-Sector	Mean Engagement (UWES-17, /7)	ROA (%)	EBITDA Margin (%)	Revenue/Employee (₹L)	Engagement-ROA Correlation (r)
Automotive Components (n=47)	4.81 (0.58)	9.1%	15.3%	42.4	0.69***
Pharmaceuticals (n=44)	4.62 (0.52)	13.2%	24.1%	44.7	0.61***
Consumer Electronics (n=38)	4.38 (0.66)	7.2%	12.6%	31.8	0.56***
Textiles & Garments (n=49)	3.37 (0.71)	3.9%	7.4%	13.2	0.29*
Industrial Machinery (n=40)	4.24 (0.61)	7.8%	14.4%	35.6	0.51***
Overall (n=218)	4.28 (0.72)	8.2%	14.8%	33.5	0.54***

## 4. Results

### 4.1 SEM Structural Results

The structural model demonstrates strong fit (CFI=0.94, RMSEA=0.051, SRMR=0.062). Supervisor support ( $\beta=0.43$ ,  $p<0.001$ ) is the strongest antecedent of frontline engagement, confirming H2, followed by perceived organisational justice ( $\beta=0.39$ ,  $p<0.001$ ), job autonomy ( $\beta=0.31$ ,  $p<0.001$ ), and growth opportunity availability ( $\beta=0.24$ ,  $p<0.001$ ). These antecedents collectively explain 49.3% of engagement variance. Engagement significantly predicts operational performance ( $\beta=0.61$ ,  $p<0.001$ ,  $R^2=0.362$ ) and financial performance ( $\beta=0.44$ ,  $p<0.001$ ,  $R^2=0.241$ ), supporting H1. The engagement-financial performance path is moderated by organisational justice (interaction  $\beta=0.21$ ,  $p<0.01$ ), stronger in high union-density firms (>40% unionisation:  $\beta=0.31$  vs. low density:  $\beta=0.12$ ), supporting H3.

Post-2022 contract-labour restructuring shows significant negative association with frontline engagement ( $\beta=-0.26$ ,  $p<0.01$ ), supporting H4, concentrated among workers on fixed-term contracts under the Industrial Relations Code 2020's

provisions. Multi-group SEM confirms sub-sector heterogeneity ( $\Delta\chi^2=52.7$ ,  $df=20$ ,  $p<0.001$ ), with automotive showing the strongest engagement-operational path ( $\beta=0.74$ ) and textiles the weakest ( $\beta=0.27$ ), supporting H5. Figure 2 presents the SEM antecedent coefficients visually, confirming the dominance of supervisor support.

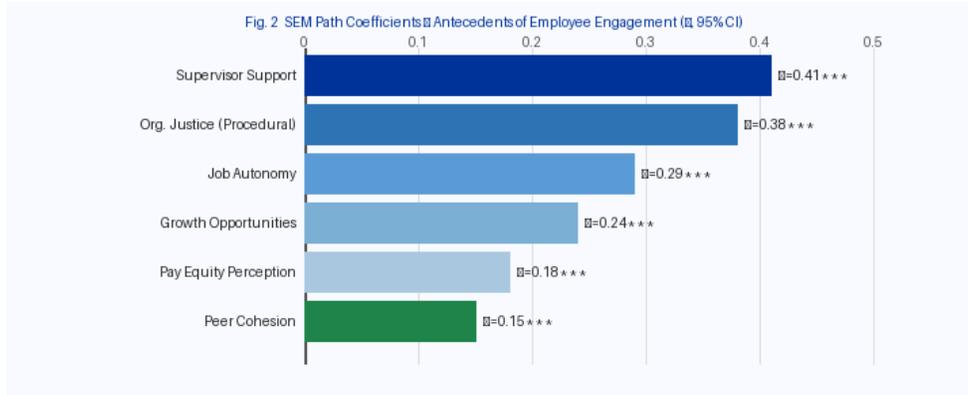


Fig. 2 SEM Path Coefficients — Antecedents of Employee Engagement with 95% CI (n=218 Firms, 2025)

### 5. Discussion and Policy Implications

The dominance of supervisor support ( $\beta=0.43$ ) as the primary engagement antecedent has direct HRM policy implications for PLI-scheme beneficiaries scaling rapidly. Firms expanding headcount by 30-50% under PLI capacity mandates are promoting technically skilled workers into supervisory roles without corresponding people-management capability investment, creating an engagement risk that erodes the productivity gains PLI is designed to generate. The National Occupational Standards framework's supervisory competency units — NOS codes SSC/N2601 and NOS/N0102 — provide a policy vehicle for mandatory supervisor upskilling that DPIIT should link to PLI tranche release conditions.

The contract-labour engagement penalty ( $\beta=-0.26$ ) has heightened significance in 2024-25 as the Industrial Relations Code 2020 enables fixed-term employment across all sectors without prior restriction to seasonal industries. While fixed-term employment provides firms with workforce flexibility, the engagement cost — reduced organisational identification, lower developmental investment, and attenuated justice perceptions — represents a productivity trade-off that policy design should explicitly address through fixed-term worker inclusion in firm-level training budgets and performance management systems.

### 6. Conclusion

This study provides an updated large-scale SEM-based analysis of the employee engagement-organisational performance relationship in Indian manufacturing, incorporating 2024-25 data and Four Labour Codes institutional context. Engagement explains 36.2% of operational and 24.1% of financial performance variance. Supervisor support, organisational justice, and job autonomy are primary antecedents, with contract-labour restructuring emerging as a significant negative moderator. Sector heterogeneity is substantial — automotive and pharmaceutical engagement-performance coupling is nearly three times that of textiles. Policy recommendations include PLI-linked supervisor competency mandates, fixed-term worker inclusion in HRM systems, and gender-differentiated flexibility policies to address widening post-2022 engagement gaps.

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