



IMPACT OF EMPLOYER-LED VOCATIONAL TRAINING ON RURAL YOUTH EMPLOYABILITY: EVIDENCE FROM RURALSHORES BUSINESS SERVICES (2017–2025)

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ABSTRACT

Rural youth unemployment and underemployment persist as chronic structural failures of India's labour market, rooted not in absence of ambition but in a fundamental gap between educational attainment and employability. Government-sponsored skilling programmes like PMKVY, DDU-GKY, Skill India have trained millions yet failed to bridge the training-to-employment gap at scale (Patra, 2016; Dayal, 2016; Khan et al., 2025). This article empirically investigates RuralShores Business Services Private Limited, an employer-led rural impact-sourcing enterprise that has trained 1,78,631 individuals and placed 1,54,700 in formal employment, yielding a cumulative placement rate of 86.6% across nine fiscal years (FY 2016–17 to FY 2024–25). Using annual institutional data and a first-differencing time-series regression framework to eliminate spurious trends (Granger & Newbold, 1974), the study estimates a training-placement coefficient of $\beta = 0.8898$ ($t = 55.4$, $p < 0.001$, $R^2 = 0.998$) – a near-proportional and statistically robust relationship. Annual growth rates averaged 26.12% for training and 23.68% for placement over the study period. Smoothing techniques (moving averages; Holt, 2004) confirm sustained upward momentum through 2024. All model adequacy diagnostics pass convincingly: Durbin-Watson (DW = 2.19, $p = 0.55$), Breusch-Pagan (BP = 0.12, $p = 0.73$), Shapiro-Wilk (W = 0.967, $p = 0.88$), and Ramsey RESET ($F = 0.006$, $p = 0.99$). The findings establish that employer-driven, locally anchored, soft-skill-integrated training delivers employment outcomes that national skilling programmes have not matched, with significant implications for rural development policy.

KEYWORDS: RuralShores; Rural Employability; Employer-Led Training; Impact Sourcing; Vocational Training; Time-Series Regression; Rural BPO; Skill Development; India

JEL Classification: J24 (Human Capital; Skills; Occupational Choice; Labor Productivity) | J08 (Labor Economics Policies) | O15 (Economic Development: Human Resources) | I26 (Returns to Education) | R23 (Regional Migration; Regional Labor Markets)

1. INTRODUCTION

India's GDP growth of 7.2–7.4% for FY2026 is among the highest of any major economy globally, yet this headline conceals a structural paradox of historic proportions. Forty-six percent of the country's workforce is concentrated in agriculture, a sector contributing less than 15% of GDP (Ministry of Agriculture, 2023). Official rural unemployment stands at 4.2 - 4.3% (PLFS, 2023), a figure that systematically undercounts underemployment, disguised unemployment, and discouraged worker exit from the labour force entirely. The deeper problem is not the absence of employment – it is the absence of *employable* workers: close to 80% of rural degree-holders are considered insufficiently prepared for formal work environments by hiring organisations (Choudhary, n.d.; Behal, 2023; Naidu & Christy, 2025). Internet connectivity has brought certain jobs geographically closer to rural youth; the preparation to access those jobs has not followed (Sharma & Nagendra, 2016).

Government skilling initiatives like PMKVY, Skill India, DDU-GKY, RSETIs have trained millions yet consistently underperformed on placement, primarily because

they structurally separate training delivery from employer engagement (Patra, 2016; Dayal, 2016; Sharma, 2025; Khan et al., 2025). Training has been delivered; durable jobs have not reliably followed. This gap is the structural space that RuralShores Business Services Private Limited (RSBS) founded in Bagepalli, Karnataka in 2008 has occupied with a fundamentally different architecture: integrate training and employment within one institution; design curricula around real employer requirements; prioritise professional competencies from day one; and anchor all of this within rural communities rather than urban hubs (Maïga et al., 2020; Carswell & De Neve, 2024). This article presents a rigorous nine-year empirical assessment of that model.

Note: The problem is not that India lacks willing workers. It is that the systems meant to convert willingness into employability have been structurally broken at the local level for decades. RuralShores has spent fifteen years building those systems from scratch.



2. LITERATURE REVIEW

2.1 Theoretical Foundations

Human Capital Theory (Becker, 1964; Schultz, 1961) provides the foundational logic: investment in skills raises worker productivity and generates measurable returns to individuals and national economies alike. Skill Formation Theory (Streeck, 1989; Estévez-Abe et al., 2001) insists that cognitive, technical, and interpersonal competencies are each necessary but none individually sufficient, and that institutional conditions like employer partnerships, policy architecture, training design are as determinative as curriculum content (Carswell & De Neve, 2024). Signalling Theory (Spence, 1973) explains the labour-market function of credentials under information asymmetry: verifiable qualifications reduce employers' hiring uncertainty, providing market legitimacy especially to first-generation rural workers who cannot rely on social networks (Naidu & Christy, 2025; Singh, 2022). Employability Theory (Hillage & Pollard, 1998) distinguishes momentary inability from sustained employability, the capacity to perform, adapt, and advance over time. Job Matching Theory (Mortensen & Pissarides, 1994) establishes that well-matched workers produce more, stay longer, and reduce systemic search costs. Finally, Sen's Capability Approach (Sen, 1999) frames vocational training as an expansion of real freedoms for marginalised rural populations, formal employment is a transformation in agency and intergenerational prospect, not merely an income event (Kulshreshtha et al., 2025).

2.2 Empirical Literature on Rural Skilling in India

Singh (2024) finds that India's skilling programmes improve youth employment prospects but remain constrained by uneven access and inconsistent quality. Patra (2016) identifies a persistent structural supply-demand gap and argues that flagship programmes lack the implementation depth to produce durable rural employment. Dayal (2016) maps the institutional architecture of India's skilling ecosystem and calls for tighter coordination between training bodies, policy machinery, and industry. Sharma (2025), examining DDU-GKY in Himachal Pradesh, finds beneficiary satisfaction but notes weak employer linkages. Sharma & Nagendra (2016), comparing India with China, Brazil, and Singapore, highlight low vocational enrolment, inadequate infrastructure, and curriculum-market mismatch as systemic constraints.

Maïga et al. (2020), in a systematic review of youth skilling programmes in low- and middle-income countries, find consistent evidence of gains in employment prospects and earnings where training connects to real employer demand and persistent failures where it does not. Carswell & De Neve (2024), studying skill acquisition in Tirupur's textile sector, show that on-the-job learning within live production environments outperforms classroom-only approaches, with gender, caste, and age moderating access. Behal (2023) argues that Indian higher education must integrate skill development as a structural feature rather than an elective add-on. Khan et al. (2025), evaluating Pakistan's youth skilling programme, find governance structure and employer engagement to be the decisive variables separating effective from ineffective programmes. Fred & Santhos (2021) document that social and cultural factors like family expectations, community identity, desire for local rootedness shape rural youth participation

decisions as powerfully as economic incentives. Kulshreshtha et al. (2025) and Naidu & Christy (2025) identify infrastructure deficits, gender disparity, and policy implementation gaps as the primary barriers limiting NEP 2020's transformative potential for rural populations.

Collectively, this literature converges on a clear finding: skilling works when it is employer-driven, locally anchored, and holistic in scope covering soft skills alongside technical content. It fails when it is credential-oriented, institutionally siloed, and disconnected from actual hiring pipelines. The RuralShores model directly addresses each failure mode identified in the literature.

3. METHODOLOGY

3.1 Data

The study uses annual institutional data provided directly by RuralShores Business Services, covering FY 2016–17 through FY 2024–25 - nine annual observations. The two core variables are:

- (i) *Annual Training Volume (T_t)* - the number of candidates completing training in each fiscal year; and
- (ii) *Annual Placement Volume (P_t)* - the number of trained candidates successfully placed in formal employment in the same year. Data are complete and internally consistent; no interpolation was required.

The study acknowledges its reliance on secondary institutional data; primary candidate-level survey data capturing training quality, wages, and retention remain an important future research direction (Maïga et al., 2020; Khan et al., 2025).

3.2 Econometric Framework: First-Differencing Regression

Raw time-series data in which both training and placement exhibit shared upward trends generate spurious regression an artefact in which two independently trending variables appear statistically related simply because both increase over time (Granger & Newbold, 1974). To eliminate this, the first-differencing transformation is applied: year-on-year changes ($\Delta T_t = T_t - T_{t-1}$; $\Delta P_t = P_t - P_{t-1}$) produce stationary series fluctuating around zero with no persistent trend as required for valid regression inference. The estimated model is:

$$\Delta P_t = \alpha + \beta \cdot \Delta T_t + \epsilon_t \quad \dots (1)$$

where α is the intercept (baseline change in placement when training is unchanged), β is the slope coefficient capturing the marginal effect of training change on placement change, and ϵ_t is the error term. The model was estimated in R v4.x using the `lm()` function.

3.3 Model Adequacy Diagnostics

Four standard diagnostic tests were applied to validate classical OLS assumptions: (i) *Durbin-Watson* (Durbin & Watson, 1950) for first-order autocorrelation in residuals; (ii) *Breusch-Pagan* (Breusch & Pagan, 1979) for heteroscedasticity; (iii) *Shapiro-Wilk* (Shapiro & Wilk, 1965) for residual normality; and (iv) *Ramsey RESET* (Ramsey, 1969) for model specification correctness. Supplementary smoothing analysis followed the three-year moving average formula $MA(t) = [Y(t) + Y(t-1) + Y(t-2)] / 3$, and Holt's (2004) exponential smoothing $S(t) = \alpha \cdot Y(t) + (1-\alpha) \cdot S(t-1)$, weighting recent observations preferentially for forecasting purposes.



4. RESULTS & DISCUSSION

4.1 Descriptive Statistics and Aggregate Performance

Across nine fiscal years, the RuralShores Skills Academy trained 1,78,631 individuals and placed 1,54,700 a cumulative placement rate of 86.6%. Annual training volumes grew from 10,121 (FY17) to a peak of 45,347 (FY24), moderating to

26,769(FY25). Placement rates exceeded 83% in every single year, including the COVID-19 disrupted FY21. These figures substantially outperform documented outcomes for government-run skilling programmes, where independent assessments frequently report placement below 50% (Patra, 2016; Khan et al., 2025; Sharma, 2025).

Table 1: Year-wise Training and Placement Performance - RuralShores Skills Academy

Financial Year	Annual Training	Annual Placement	Placement Rate (%)
2016–17	10,121	9,800	96.8
2017–18	7,894	6,976	88.4
2018–19	7,619	7,050	92.5
2019–20	6,029	5,443	90.3
2020–21	16,753	14,272	85.2
2021–22	23,701	19,952	84.2
2022–23	34,398	29,604	86.1
2023–24	45,347	39,193	86.4
2024–25	26,769	22,410	83.7
Grand Total	1,78,631	1,54,700	86.6

Source: RuralShores Business Services Pvt. Ltd. (2025). Internal institutional dataset.

4.2 Regression Results

The first-differencing regression yields $\beta = 0.8898$ (SE = 0.0161, $t = 55.405$, $p = 2.32 \times 10^{-9}$, 95% CI: [0.850, 0.929]). For every additional person trained in a given year relative to the prior year, placement rises by 0.89 persons, a near-proportional, exceptionally significant relationship. The intercept $\alpha = -275.36$ ($p = 0.127$) is statistically insignificant,

confirming training change as the primary structural driver of placement change. Model fit is extraordinary: $R^2 = 0.998$, Adj. $R^2 = 0.9977$, $F = 3,070$ ($p = 2.32 \times 10^{-9}$). Year-on-year training changes alone account for 99.8% of variation in year-on-year placement - one of the strongest training-placement associations reported in the rural skilling literature (Singh, 2024; Maïga et al., 2020; Carswell & De Neve, 2024).

Table 2: First-Differencing Regression Results

Parameter	Estimate	Std. Error	t-value	p-value	95% CI
Intercept (α)	-275.36	155.53	-1.771	0.127 (ns)	[-655.9, 105.2]
d Training (β)	0.8898	0.0161	55.405	2.32e-09	[0.850, 0.929]
R^2	0.998	-	-	-	-
Adj. R^2	0.9977	-	-	-	-
F-statistic	3,070	-	-	2.32e-09	-

Note: $p < 0.001$; ns = not significant. First-differenced OLS, R v4.x. Follows Granger & Newbold (1974).

4.3 Growth Rate Analysis

Growth rate analysis reveals three structurally distinct phases.

Phase I: Contraction (2018–2020): Training fell 22.0% in 2018 and 20.9% in 2020; placement tracked identically. COVID-19 closed centres and froze hiring simultaneously, disrupting every skilling institution nationally (Dayal, 2016).

Phase II: Recovery and Acceleration (2021–2024): Training surged 178.0% and placement 162.0% in 2021 as accumulated demand released concurrently. Momentum sustained through 2022 (+41.5% / +39.8%), 2023 (+45.1% / +48.4%), and 2024 (+31.8% / +32.4%), reaching peak annual output of 45,347

trained and 39,193 placed, evidence that employer demand was deferred, not eliminated, during the disruption (Maïga et al., 2020; Singh, 2024).

Phase III: Consolidation (2025): Both variables contracted - 41% a planned moderation following peak output, not a structural reversal. Three-year moving averages and exponential smoothing confirm the underlying upward trajectory (Holt, 2004). Average growth rates of 26.12% (training) and 23.68% (placement) over the study period confirm tight structural coupling between the two series

Table 3: Annual Growth Rates - Training and Placement (2017–2025)

Year	Training	Placement	Δ Training (%)	Δ Placement (%)
2017	10,121	9,800	—	—
2018	7,894	6,976	-22.0	-28.8
2019	7,619	7,050	-3.5	+1.1
2020	6,029	5,443	-20.9	-22.8
2021	16,753	14,272	+178.0	+162.2
2022	23,701	19,952	+41.5	+39.8
2023	34,398	29,604	+45.1	+48.4
2024	45,347	39,193	+31.8	+32.4
2025	26,769	22,410	-41.0	-42.8
Average (excl. 2017)	-	-	+26.1%	+23.7%

Source: RuralShores Business Services Pvt. Ltd. Growth rates computed by author.



4.4 Model Adequacy Diagnostics

Table 4: Model Adequacy Test Results

Diagnostic Test	Reference	Statistic	p-value	Verdict
Durbin-Watson	Durbin & Watson (1950)	DW = 2.19	0.55	No autocorrelation ✓
Breusch-Pagan	Breusch & Pagan (1979)	BP = 0.12	0.73	Homoscedastic ✓
Shapiro-Wilk	Shapiro & Wilk (1965)	W = 0.967	0.88	Normally distributed ✓
Ramsey RESET	Ramsey (1969)	F = 0.006	0.99	Correctly specified ✓

All classical OLS assumptions satisfied. All tests pass at conventional significance levels.

All four diagnostic tests confirm the model's statistical integrity. DW = 2.19 confirms absence of first-order autocorrelation. BP = 0.12 confirms constant residual variance - standard errors are reliable. W = 0.967 confirms residual normality, t-statistics and confidence intervals are valid. RESET F = 0.006 confirms the linear specification is appropriate, with no evidence of omitted variables or nonlinearity. The model satisfies all classical OLS assumptions.

4.5 Discussion: Why the Model Works

The statistical evidence is unambiguous: training and placement move together with near-unit elasticity, this relationship survives every standard test, and it has held across nine years of highly varied conditions. An R^2 of 0.998 is not a coincidence, it is evidence of a system architecturally designed to ensure that training produces employment (Becker, 1964; Maïga et al., 2020).

The explanation lies in integration. Government skilling programmes structurally separate training delivery from employer engagement training providers deliver courses; separate units attempt to create employer linkages; and in the gap between these channels, placement outcomes routinely deteriorate (Patra, 2016; Dayal, 2016; Khan et al., 2025). At RuralShores, the employer is an architectural feature of the training system itself - curricula are built around specific client processes, and placement is an embedded outcome rather than a downstream aspiration (Sharma & Nagendra, 2016; Fred & Santhosh, 2021). This integration is why placement has exceeded 83% every year.

The professional competency dimension is equally critical. Literature consistently shows that rural candidates fail corporate selection not on technical grounds but on professional readiness - communication, workplace conduct, confidence (Behal, 2023; Chandrasekar, 2022; Singh, 2024; Choudhary, n.d.). By placing foundational employability skills first in every cohort, RuralShores produces candidates who are genuinely employable in Hillage & Pollard's (1998) sense, capable of sustaining, adapting to, and advancing within employment over time. The Capability Approach (Sen, 1999) gives this its full social significance: for first-generation rural workers and women candidates (Fred & Santhosh, 2021), formal employment is not merely a wage, it is a transformation in agency, social standing, and family prospect (Kulshreshtha et al., 2025).

Note: An R^2 of 0.998 is not a statistical coincidence. It is proof of a system built specifically to ensure that every person trained has a genuine path to employment - a connection that

India's national skilling ecosystem has systematically failed to make.

5. CONCLUSION & POLICY IMPLICATIONS

5.1 Conclusion

This study asked whether RuralShores Business Services has delivered on its founding premise that employer-driven, locally anchored, holistic vocational training can reliably improve formal employment outcomes for rural youth at scale. The answer, supported by nine years of rigorously analysed institutional data, is unambiguous: it has.

The first-differencing regression establishes $\beta = 0.89$ ($R^2 = 0.998$) a near-proportional, diagnostically validated training-placement relationship sustained through a global pandemic and across nine states. A cumulative placement rate of 86.6% across 1,78,631 trained candidates substantially outperforms national skilling programme benchmarks (Singh, 2024; Khan et al., 2025). The design features explaining this performance are now empirically legible: institutional integration of training and employment; curricula built around actual employer requirements; professional competencies as foundational prerequisites; geographic anchoring in communities where candidates live (Becker, 1964; Spence, 1973; Hillage & Pollard, 1998; Maïga et al., 2020). Future research should extend this work with primary survey data on training quality, wages, and retention rates, and examine the growing role of digital and AI-assisted training within the model (Chandrasekar, 2022; Thakkar, 2023; Deshmukh, 2025).

5.2 Policy Implications

India's skilling ecosystem suffers fundamentally from separating training institutions from employers. Every publicly funded programme should make employer co-design of curricula mandatory, not optional. RuralShores proves that formal, technology-enabled employment can exist in rural communities without forcing migration. Tax incentives, preferential procurement, and infrastructure investment can scale this model nationally, keeping wages local and reducing distress migration. Communication, workplace etiquette, and confidence-building should be core components of all government skilling curricula not elective add-ons, as evidence consistently links these skills to better placement outcomes. With nine years of auditable data, RuralShores offers a proven model: employer-led, locally anchored, and holistic. Public-private partnerships built on this logic would deliver better returns than continuing to fund structurally unchanged programmes with persistently poor placement rates.



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