



WORKPLACE LEARNING AND CAREER DEVELOPMENT AS DETERMINANTS OF EMPLOYEE RETENTION: AN EMPIRICAL STUDY OF IT PROFESSIONALS IN PUNE CITY

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ABSTRACT

Employee retention is a persistent concern in the knowledge-intensive Indian information technology (IT) sector. Drawing on social exchange theory, this study examines whether employees' perceptions of workplace learning and career development are associated with their intention to remain with their employer. A cross-sectional survey design is adopted, using eight-item scales for workplace learning and career development and a six-item scale for employee retention, each rated on a five-point Likert scale. The instrument and analytic procedures (reliability analysis, Pearson and Spearman correlation, and hierarchical multiple regression) were applied to a simulated dataset of 400 respondents modelled on IT professionals in Pune City. All scales were reliable ($\alpha = .86-.89$). Workplace learning ($r = .45$) and career development ($r = .45$) were each positively correlated with retention and together explained 27.5% of its variance (adjusted $R^2 = .271$), with near-equal standardised effects ($\beta = .31$ each). Because the data are simulated, these estimates demonstrate the analytic framework and are not empirical evidence; they are to be replaced with field data before substantive inference. If replicated, the pattern would suggest that learning and career-development practices act as complementary retention levers.

KEYWORDS : Workplace Learning; Career Development; Employee Retention; IT Professionals; Social Exchange Theory; Pune

1. INTRODUCTION

Retaining skilled employees is a strategic problem for firms in the Indian information technology (IT) sector, where competitive advantage rests on knowledge-intensive work, rapidly changing technical requirements and high labour-market mobility. Voluntary exits entail the loss of tacit knowledge, disrupt team continuity and impose recruitment and re-training costs. Identifying the organisational practices that encourage skilled professionals to stay is therefore of both theoretical and managerial interest.

Two development-oriented practices are especially salient in this setting. *Workplace learning*—the opportunities, resources and support through which employees acquire, share and apply job-related knowledge—addresses the continuous upskilling that technology work demands. *Career development*—the organisational provision of advancement pathways, mentoring, feedback and challenging assignments—addresses employees' longer-term professional trajectories. Prior research links learning opportunities to intentions to stay or leave in technology organisations (Steil et al., 2020; Lehtonen et al., 2022) and links organisational career development to retention among Indian IT employees (Jena & Nayak, 2023, 2024). These streams have, however, largely developed in parallel, and the joint and relative contributions of the two practices to retention have received less attention, particularly in region-specific samples. Pune, one of India's principal IT employment centres, offers a suitable setting.

This study therefore (a) describes the levels of workplace learning, career development and employee retention reported by IT professionals in Pune City; (b) examines the bivariate relationships of workplace learning and career development with retention; and (c) estimates their joint and unique influence on retention. Grounded in social exchange theory, we hypothesise that both practices are positively related to retention and that each retains explanatory power when the other is controlled. The empirical illustration uses simulated data, as explained in Section 3.2; its purpose is to validate the instrument and reporting framework ahead of field data collection.

2. Theoretical Background and Hypotheses

2.1 Social Exchange Perspective

Social exchange theory holds that workplace relationships are sustained by reciprocal exchanges of valued resources (Blau, 1964; Cropanzano & Mitchell, 2005). When an employer invests in an employee's development, the employee may interpret the investment as recognition and support and reciprocate with favourable attitudes and a stronger willingness to continue the relationship. Learning and career-development opportunities are thus plausible exchange resources whose perceived availability may raise intentions to remain. Retention is conceptualised here as an intention or willingness to stay, which is distinct from realised turnover.

2.2 Workplace Learning and Retention

Workplace learning extends beyond formal training to include informal learning, supervisory support, knowledge sharing and the opportunity to apply new skills. In a survey of 440 employees of a technology organisation, Steil et al. (2020) found that perceived learning opportunities were positively associated with intention to stay and negatively associated with intention to leave among relevant employee groups. Randall et al. (2022) examined formal and informal learning as deterrents of turnover intentions, underscoring that learning is broader than formal programmes, and Lehtonen et al. (2022) studied workplace learning opportunities alongside job satisfaction, subjective career success and turnover intention in IT and engineering settings. The association is unlikely to be uniform: Jun and Eckardt (2025), adopting a social exchange perspective, found that the training–turnover relationship varied with employees' job qualification and educational background. On balance, the literature supports the expectation that:

H1. Workplace learning is positively related to employee retention.

2.3 Career Development and Retention

Career development comprises the organisational support through which employees set goals, build competencies and progress, including career planning, mentoring, feedback, internal mobility and challenging assignments. It is broader than promotion. Among 422 IT employees in India, Jena and Nayak (2023) reported a positive relationship between organisational career development and retention, with job satisfaction and organisational engagement as mediating

mechanisms; a companion analysis identified job engagement and organisational engagement as partial mediators (Jena & Nayak, 2024). From a social exchange standpoint, visible career pathways signal organisational investment and may reduce the perceived need to change employers in order to grow professionally. Hence:

H2. Career development is positively related to employee retention.

2.4 Joint Effects

Because both practices are developmental resources, they are likely to be positively correlated; the substantive question is whether each contributes to retention beyond the other. Learning builds capability, whereas career development ties that capability to a future within the current organisation, so the two may operate as complementary rather than redundant signals of organisational investment. Examining them in a single model addresses the limitation of studies that treat them separately and allows their unique contributions to be estimated.

H3. Workplace learning predicts employee retention after controlling for career development.

H4. Career development predicts employee retention after controlling for workplace learning.

3. Method

3.1 Design and Population

A quantitative, cross-sectional and explanatory survey design is adopted. The target population is IT professionals employed in IT-services, product-based and IT-enabled-services organisations in Pune City across entry, middle and senior levels. In the planned field study, respondents will be recruited through participating organisations, with the sampling procedure (probability or non-probability) determined by access to the sampling frame.

3.2 Data and Provenance

The analysis reported below uses a synthetic dataset of 400 records, with eight demographic variables, eight workplace learning items, eight career development items and six retention items. The dataset was generated to test the questionnaire, demonstrate the statistical procedures and develop the manuscript structure; it does not represent real respondents. Screening showed no missing values, duplicate identifiers or out-of-range responses, and the composite scores in the file matched item means within rounding error (0.005). All results should be read as illustrative and must be replaced by estimates from field data before any substantive claim is made about Pune's IT workforce.

3.3 Measures

Constructs were measured on five-point scales (1 = strongly disagree, 5 = strongly agree) and scored as item means. *Workplace learning* (WL1–WL8) covers opportunities to learn job-related skills, role-relevant training, encouragement of continuous knowledge updating, supervisor support, knowledge sharing, application of training to work, digital learning resources and time available for learning. *Career development* (CD1–CD8) covers advancement opportunities, clarity on skills needed for progression, support for long-term goals, career feedback, mentoring and coaching, communication of internal vacancies, appraisal-based career planning and challenging assignments. *Employee retention* (ER1–ER6) covers intention to continue, willingness to recommend the organisation, perceived future, willingness to remain despite alternatives, career commitment and likelihood of remaining in the near term. The items were operationalised from the construct definitions in Section 2 and have not yet been validated factorially.

3.4 Analytic Strategy

Internal consistency was assessed with Cronbach's α ($\geq .70$ deemed acceptable; Nunnally & Bernstein, 1994). Construct

means were interpreted as low (1.00–2.49), moderate (2.50–3.49), high (3.50–4.49) or very high (4.50–5.00) and tested against the scale midpoint of 3 with one-sample t tests. Associations were estimated with Pearson correlations, with Spearman coefficients as a robustness check. Retention was then regressed on workplace learning (Model 1) and on workplace learning and career development together (Model 2): $ER = \beta_0 + \beta_1 WL + \beta_2 CD + \varepsilon$. Assumptions were checked using variance inflation factors (VIF), the Durbin–Watson statistic and a Shapiro–Wilk test of residuals, and effect sizes are reported as Cohen's (1988) f^2 . For the field study, participation will be voluntary and anonymous, informed consent will be obtained, responses will be reported in aggregate, and institutional ethics approval will be sought. No human participants were involved in the simulated analysis.

4. RESULTS

4.1 Sample Profile

Table 1 summarises the simulated sample ($N = 400$). Most respondents were aged 25–34 (46.3%), male (60.5%) and postgraduate (67.0%); 59.3% worked in IT-services firms and 83.1% held entry- or middle-level positions.

Table 1. Profile of Simulated Respondents ($N = 400$), n (%)

Variable	Distribution
Age (years)	Below 25: 61 (15.3); 25–34: 185 (46.3); 35–44: 105 (26.3); 45 and above: 49 (12.3)
Gender	Male: 242 (60.5); Female: 153 (38.3); Other/prefer not to say: 5 (1.3)
Qualification	Graduate: 101 (25.3); Postgraduate: 268 (67.0); Professional/other: 31 (7.8)
Total experience	< 2 yrs: 66 (16.5); 2–5: 173 (43.3); 6–10: 113 (28.3); > 10: 48 (12.0)
IT experience	< 2 yrs: 141 (35.3); 2–5: 206 (51.5); 6–10: 51 (12.8); > 10: 2 (0.5)
Organisation type	IT services: 237 (59.3); Product-based: 77 (19.3); IT-enabled services: 64 (16.0); Other: 22 (5.5)
Employment level	Entry: 139 (34.8); Middle: 193 (48.3); Senior/managerial: 68 (17.0)
Organisation tenure	< 1 yr: 104 (26.0); 1–3: 152 (38.0); 4–7: 111 (27.8); > 7: 33 (8.3)

Note. Percentages are rounded to one decimal place and may not sum exactly to 100.

4.2 Reliability and Descriptive Statistics

All three scales exceeded the .70 threshold (Table 2). Corrected item–total correlations ranged from .56 to .69, and deleting any item would have lowered α . Workplace learning ($M = 3.55$, $SD = 0.51$) and retention ($M = 3.52$, $SD = 0.52$) fell in the high band, and career development ($M = 3.48$, $SD = 0.52$) at the upper edge of the moderate band; all means were significantly above the midpoint. Item means were tightly clustered (WL 3.53–3.58; CD 3.46–3.50; ER 3.50–3.53), indicating little differentiation across facets, itself a feature to check in field data. Role-relevant training (WL2) was the highest-rated learning item; understanding the skills needed for the next level, support for long-term goals and career feedback (CD2–CD4; $M = 3.46$) were the lowest-rated career items, with feedback drawing the least agreement (46.8%); and willingness to stay when alternatives exist (ER4; $M = 3.50$) drew the most disagreement within retention (7.0%).

Table 2. Reliability and Descriptive Statistics

Construct	Items	α	Item–total r	M	SD	% high (≥ 3.50)	% low (≤ 2.49)	$t(399)$ vs. 3
Workplace learning	8	.874	.56–.63	3.55	0.51	61.3	4.0	21.59
Career development	8	.887	.63–.69	3.48	0.52	53.3	5.0	18.31

Employee retention	6	.860	.63–.68	3.52	0.52	59.0	4.5	19.81
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Note. All t tests $p < .001$. Item-level statistics are available from the author.

4.3 Correlation Analysis

Workplace learning was positively and significantly correlated with retention, $r(398) = .45, p < .001$, as was career development, $r = .45, p < .001$ (Table 3). The two predictors were correlated at $r = .45$, well below levels indicating multicollinearity. Spearman coefficients were virtually identical ($\rho = .42-.44$), a useful check because Shapiro–Wilk tests flagged slight departures from normality (skewness -0.21 to -0.07 ; kurtosis -0.17 to 0.09), which are acceptable with $N = 400$. H1 and H2 are supported.

Table 3. Pearson Correlations (N = 400)

Variable	1	2	3
1. Workplace learning	—		
2. Career development	.454**	—	
3. Employee retention	.448**	.446**	—

Note. * $p < .001$ (two-tailed). Spearman ρ : WL–ER = .418, CD–ER = .434, WL–CD = .441 (all $p < .001$).

4.4 Regression Analysis

Model 1 showed that workplace learning alone significantly predicted retention and explained 20.1% of its variance (Table 4); each one-point increase in learning was associated with a 0.46-point increase in retention (95% CI [0.373, 0.556]), a medium effect ($f^2 = 0.25$). Adding career development (Model 2) increased explained variance by 7.4 percentage points to 27.5% (adjusted $R^2 = .271$; $f^2 = 0.38$). Both predictors made independent and near-equal contributions ($\beta = .31$ each), supporting H3 and H4. The learning coefficient fell from 0.46 to 0.32 once career development entered the model, indicating that part of the learning effect overlaps with career development. The assumptions were satisfied: VIF = 1.26, Durbin–Watson = 1.86, and residuals were normally distributed (Shapiro–Wilk $p = .76$). Figure 1 displays the bivariate relationships.

Table 4. Hierarchical Egression of Employee Retention

Predictor	Model 1 B (SE)	β	Model 2 B (SE)	β	95% CI for B (Model 2)
Constant	1.873 (0.166)		1.317 (0.181)		[0.960, 1.673]
Workplace learning	0.464 (0.046)*	.448	0.321 (0.050)*	.309	[0.223, 0.418]
Career development			0.307 (0.048)*	.305	[0.212, 0.401]
R^2 (adjusted)	.201 (.199)		.275 (.271)		
F (df)	99.87 (1, 398)		75.12 (2, 397)		
ΔR^2 ; f^2	—; 0.25		.074; 0.38		

Note. * $p < .001$. Dependent variable: employee retention.

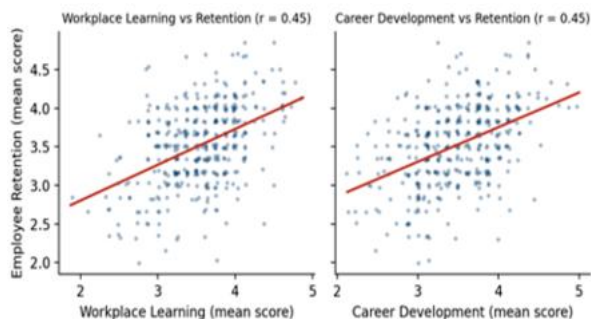


Figure 1. Employee Retention Plotted Against Workplace Learning and Career Development (Small Random Jitter Added for Visibility).

5. DISCUSSION

In the simulated data, workplace learning and career development were each moderately associated with retention and retained independent explanatory power when modelled together. The pattern is consistent with a social exchange account in which both forms of developmental investment contribute to the willingness to stay, and with prior evidence on learning opportunities (Steil et al., 2020) and organisational career development (Jena & Nayak, 2023). The reduction in the learning coefficient after adding career development suggests the two practices partly share a common signal of organisational investment, while their near-identical unique effects suggest complementarity rather than substitution. The model leaves roughly 72% of the variance in retention unexplained, so factors such as pay, job satisfaction, engagement, leadership and external labour-market conditions remain important, as the mediation work of Jena and Nayak (2023, 2024) indicates.

Should field data replicate this pattern, several practical implications follow. First, organisations should treat learning and career development as an integrated system and not as separate HR programmes. Second, learning provision should emphasise role-relevant training, protected time for learning and supervisory support so that learning translates into work. Third, the weakest-rated career items point to low-cost improvements: transparent skill requirements for progression, regular developmental feedback and effective communication of internal vacancies. Fourth, because the willingness to stay when alternatives are available was the weakest retention indicator, retention strategies should address employees who have credible external options. Given Jun and Eckardt's (2025) evidence of heterogeneity by qualification and education, practices may need tailoring across employee groups.

6. Limitations and Future Research

The foremost limitation is that the data are simulated; coefficients, effect sizes and the narrow clustering of item means reflect the data-generating process and cannot be interpreted as evidence about real employees. Even with field data, the cross-sectional design precludes causal inference, and reverse causation is plausible if employees who intend to stay evaluate organisational practices more favourably. Single-source self-reports raise the risk of common-method bias, retention is measured as intention rather than behaviour, the scales have yet to be validated by confirmatory factor analysis, and results from one city may not generalise. Future research should collect stratified field samples, test measurement and discriminant validity, examine mediators (job satisfaction, engagement, commitment) and moderators (qualification, seniority, organisation type), and use longitudinal designs linked to actual turnover.

7. CONCLUSION

This paper specifies and demonstrates an analytic framework for testing whether workplace learning and career development jointly determine employee retention among IT professionals. The illustrative analysis supports all four hypotheses and shows both practices contributing independently to retention intentions. The substantive contribution of the study will depend on replacing the simulated data with a carefully sampled field survey.

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