

Employee Engagement as a Predictor of Career Development: A Quantitative Investigation of Demographic Moderators in Indian Manufacturing Organization

Shakshi¹

Research Scholar,
Department of Management,
Bhunderkhand University Jhansi, India.

Dr. Archana Verma²

Assistant Professor,
Department of Management,
Bhunderkhand University, India.

Abstract: *Employee engagement is widely regarded as a primary lever for achieving organizational objectives, and it has been linked to a wide range of valued employee and organizational outcomes. While the antecedents of employee engagement have received extensive research attention, far less is known about its developmental consequences — particularly its relationship with career development. This study examines the relationship between employee engagement and career development among 337 employees drawn from three large Indian manufacturing organizations (L&T Limited, Kanskahal; OCL India Limited, Rajgangpur; and IFGL, Kalunga), using a structured questionnaire built on validated five-point Likert scales (Cronbach's $\alpha = .841$ for employee engagement; $\alpha = .873$ for career development). Exploratory factor analysis reduced twelve employee engagement items into three underlying factors — Drive, Commitment, and Proactive Behavior — which together explained 66.53% of total variance. Multiple regression analysis showed that these three factors jointly explained 48.3% of the variance in career development ($R^2 = .483$, $F(3,333) = 103.66$, $p < .001$), with Drive emerging as the strongest predictor ($\beta = .427$). Moderation analysis using the Preacher and Hayes approach revealed that employee experience, age, qualification, and gender significantly moderate the employee engagement–career development relationship, while income does not. Of seventeen hypotheses tested, thirteen were supported. The findings affirm that employee engagement is not merely a precursor to favourable attitudes and productivity but is also a substantive predictor of how employees experience their career development, conditioned by key demographic characteristics. Implications for human resource policy and directions for future research are discussed.*

Keywords: *employee engagement, career development, factor analysis, multiple regression, moderation analysis, manufacturing organizations, human resource development.*

1. Introduction

Employee engagement has emerged as one of the central constructs in contemporary human resource management. It is generally understood as the discretionary effort that employees willingly invest in their work when given the opportunity — effort that goes beyond minimum job requirements and directly serves organizational interests. Organizations characterized by poor engagement typically exhibit elevated turnover, higher absenteeism, weaker customer service, and underachievement of strategic objectives, making engagement a matter of practical as well as theoretical importance.

Career development, meanwhile, has undergone a parallel evolution in organizational thinking. Traditional career development systems emphasized internal job-filling and hierarchical advancement — a model that has become markedly less

common as organizational structures have flattened and careers have become more individually managed. Despite this shift, both constructs continue to occupy central positions in the human resource development agenda, yet the empirical linkage between them remains comparatively under-examined.

1.1 Conceptual Background

The term ‘employee engagement’ was introduced by Kahn (1990), who conceptualized it as comprising two distinct elements: emotional engagement, in which employees feel that their opinions matter and that managers support their development, and cognitive engagement, in which employees understand what is required of them and are provided opportunities and feedback for growth. Subsequent scholarship has elaborated this foundation. Macey, Schneider, Barbera and Young (2009) characterized an engaged employee as one who thinks and acts proactively, while Macleod and Clarke (2009) described engagement as simultaneously an attitude, a behavior, and an outcome.

Three elements are commonly identified within employee engagement: intellectual engagement (thinking hard about one’s job), affective engagement (feeling positively about doing the job well), and social engagement (actively discussing work-related improvements with colleagues) (Chartered Institute of Personnel and Development [CIPD], 2010). Reilly and Brown (2008) argued that engagement has largely superseded job satisfaction and organizational commitment as the preferred construct in this domain because it combines a rational dimension — the employee’s appreciation of how their role aligns with organizational goals — with an emotional dimension concerning culture, achievement, and leadership.

Career development, by contrast, has been defined as a succession of related jobs arranged in a hierarchy of prestige through which individuals move in an ordered, predictable sequence (Wilensky, 1960), while subjectively, a career represents the moving perspective through which a person interprets the meaning of their working life (Hughes, 1937). The increasing volatility of employment has strengthened the connection between these objective and subjective dimensions of career (Arthur, Khapova, & Wilderom, 2005).

1.2 Rationale for the Study

Although a substantial body of research has investigated the antecedents of employee engagement, comparatively little research has examined its developmental consequences for employees — particularly career development as a distinct construct rather than as a proxy for upward mobility alone. This is a meaningful omission: if engagement is to be justified as a strategic HR investment, it is important to demonstrate that it predicts outcomes employees themselves value, including their long-term career growth. This study addresses that gap by examining whether, and under what demographic conditions, employee engagement predicts career development among employees of Indian manufacturing organizations.

1.3 Objectives of the Study

1. To examine the relationship between employee engagement and career development.
2. To analyze the influence of demographic variables on employee engagement and career development.

2. Literature Review

2.1 Theoretical Perspectives on Employee Engagement

Employee engagement research has historically followed two main streams. The first treats engagement as a psychological state or attitude, best represented by the work of Schaufeli, Bakker, and colleagues (Schaufeli, Salanova, González-Romá, & Bakker, 2002; Schaufeli & Bakker, 2010); the second treats it as a directly observable behavior, an approach rooted in the original work of Kahn (1990, 1992). Within the attitudinal tradition, engagement is described through three dimensions — vigor (willingness to invest effort and persist through difficulty), dedication (significance and enthusiasm), and absorption (full concentration in one’s work) — captured by the widely used Utrecht Work Engagement Scale (UWES). Within the behavioral

tradition, Harrison, Newman and Roth (2006) define engagement as the general tendency of employees to contribute desirable inputs to their work roles rather than withholding them, while Kahn (1990, 1992) frames engagement as the harnessing of employees' full selves — physically, cognitively, and emotionally — to their work roles.

MacLeod and Clarke (2009) identified key drivers of engagement, including a strong organizational culture that conveys vision and purpose, supportive line management, shared problem-solving among employees, and a climate of trust and integrity. They further emphasized that engagement is inherently a two-way process: organizations work to engage employees, who in turn choose the level of engagement they offer in return.

2.2 Theoretical Perspectives on Career Development

Career development theory draws heavily on developmental psychology. Super's (1957) five-stage life-span model — spanning growth, exploration, establishment, maintenance, and decline — laid the foundation for much subsequent theorizing, including the identification of the well-known mid-life career crisis. Levinson (1986) similarly proposed alternating stable and transitional periods across early, middle, and late adulthood, while Cron (1984) described four parallel career stages: exploration, establishment, maintenance, and disengagement.

Other theorists have emphasized the patterning of career choices rather than life stage alone. Schein (1996) introduced the notion of 'career anchors' — stable self-concepts (e.g., technical/functional competence, autonomy, security, entrepreneurial creativity) that guide an individual's career decisions over time. Driver (1982) classified careers into linear, steady-state, spiral, and transitory patterns, while Hall (1976) introduced the 'protean career', characterized by flexibility and continuous self-directed exploration, and Arthur and Rousseau (1996) described the emergence of 'boundaryless' careers that cross traditional organizational lines.

2.3 Linking Employee Engagement and Career Development

A smaller body of empirical work has begun to connect these two constructs. Bakker, Albrecht and Leiter (2011) identified job and personal resources as antecedents linking engagement to employees' career development. Bai and Liu (2018) found that employees' perception of stronger career growth fosters a heightened sense of belonging and responsibility toward the organization, implying a reciprocal relationship between engagement and developmental opportunity. Harter, Schmidt and Hayes (2002) linked engagement to business-unit-level performance outcomes through the influential Gallup 'satisfaction-engagement' framework, describing engagement as an individual's involvement, satisfaction, and enthusiasm for work.

Across the reviewed literature, however, most studies addressing employee engagement remain focused on identifying its antecedents — generating findings that substantially echo the earlier, well-researched construct of job satisfaction — rather than its developmental consequences. Where career development has been studied as an outcome, it has predominantly been equated with upward mobility, an internally oriented and narrow conception that omits broader dimensions such as mentoring and work-life balance.

This study addresses these gaps by examining employee engagement's relationship to career development — operationalized broadly to include potential development, career prospects, performance, learning and development, counseling, appraisal, cross-functional transfers, job rotation, mentoring, and work flexibility — within the Indian manufacturing sector.

3. Research Methodology

3.1 Research Design

The study adopts a descriptive, quantitative, deductive research design. Hypotheses were formulated a priori, data were collected from a representative sample, and findings were derived using established statistical procedures, consistent with standard practice for explanatory survey research.

3.2 Research Questions

- Is there a relationship between employee engagement and career development?
- Does employee engagement predict career development?
- Do demographic factors — age, experience, income, qualification, and gender — moderate the relationship between employee engagement and career development?
- Do age, experience, income, qualification, and gender affect employee engagement?
- Do age, experience, income, qualification, and gender affect career development?

3.3 Population and Sample

The study population comprised 2,772 employees across three manufacturing organizations in eastern India engaged in cement, engineering, and refractory production: L&T Limited, Kansbahal (n = 750); OCL India Limited, Rajgangpur (n = 1,630); and IFGL, Kalunga (n = 392). The sample size was determined using Cochran's (1977) formula for finite populations at a 95% confidence level ($Z = 1.96$) and a 5% margin of error, yielding an infinite-population sample size of 384.16, subsequently adjusted for the finite population of 2,772 to a final sample size of 337. Respondents were selected from upper, middle, and lower organizational levels using random sampling techniques based on random number tables, ensuring each population member had an equal probability of inclusion.

3.4 Instrumentation

Data were collected via a structured questionnaire comprising three sections. Section 1 measured employee engagement using 12 items rated on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree); Section 2 measured career development using 12 parallel items on the same scale; and Section 3 captured respondent demographic information (age, experience, income, qualification, and gender). Item development drew on established literature, including Macey et al. (2009), Bakker et al. (2011), Kahn (1990), Schein (1996), Gaffney (2005), Holland (1997), and others. Reliability analysis confirmed strong internal consistency for both scales:

Scale	Cronbach's Alpha	Number of Items
Employee Engagement	.841	12
Career Development	.873	12

Table 1. Reliability statistics for the employee engagement and career development scales.

A pilot study involving 50 employees preceded the main survey; based on respondent feedback, several items were rephrased for clarity, demographic items were repositioned to the end of the questionnaire, and overall pilot reliability was confirmed at 0.92. The final survey achieved a 100% response rate, with completion times ranging from 15 to 20 minutes.

3.5 Data Analysis Techniques

- Pearson correlation coefficients, to assess associations among variables.
- Exploratory factor analysis (principal components extraction with varimax rotation), to identify underlying engagement dimensions.
- Multiple linear regression, to determine the predictive value of employee engagement factors for career development.
- Moderation analysis (Preacher and Hayes method), to test interaction effects of demographic variables.
- Descriptive statistics (means, standard deviations, variances) and frequency distributions.

- One-way ANOVA, to test relationships between multi-category demographic variables and the predictor/criterion variables.
- Independent-samples t-tests, to test relationships involving gender.

3.6 Hypotheses

Seventeen hypotheses were formulated and tested, broadly falling into three groups: (i) the direct relationship and predictive effect of employee engagement on career development (H1–H2); (ii) the moderating role of demographic variables on the employee engagement–career development relationship (H3–H7); and (iii) the direct effects of demographic variables on employee engagement (H8–H12) and on career development (H13–H17) independently. The full results of hypothesis testing are reported in Section 4.6.

4. Results

4.1 Sample Characteristics

Of the 337 respondents, the largest age group was 26–35 years (49.0%), followed by 36–45 years (28.8%), 18–25 years (12.2%), and 46 years and above (10.0%). With respect to organizational tenure, 39.5% had 5–10 years of experience, 28.5% had 10–15 years, 21.0% had less than 5 years, and 11.0% had more than 15 years. Income distribution was broadly concentrated in the middle ranges, with 33.2% earning ₹30,000–45,000, 26.4% earning ₹45,000–60,000, 26.1% earning ₹15,000–30,000, and 14.3% earning above ₹60,000. Educationally, 60.2% of respondents held a graduate qualification, 23.4% held a postgraduate qualification, and 16.4% held a diploma. The sample was predominantly male (89.3%), with female respondents comprising 10.7%.

4.2 Descriptive Statistics

All engagement and career development items were measured on five-point scales. Among the employee engagement items, means ranged from 3.47 (excitement in the job) to 4.15 (care for organization), indicating moderate-to-high engagement levels overall. Among career development items, means ranged from 2.91 (mentoring) to 3.46 (advancement), indicating a somewhat more modest and more variable perception of career development opportunities. Notably, variance was consistently higher across career development items than across engagement items, suggesting more heterogeneous employee experiences of career development than of engagement.

Employee Engagement Item	Mean	SD
Excellent workplace	3.75	.951
Attachment and dedication	3.91	.877
Involvement	3.86	.934
Understanding mission	3.86	.938
Participation	3.59	1.020
Contribution	4.00	.927
Feeling of pride	3.52	1.225
Discretionary effort	3.94	.834
Care for organization	4.15	.671
Personal accomplishment	4.00	.800
Goal achievement	4.01	.822
Excitement in the job	3.47	1.210

Table 2. Descriptive statistics for employee engagement items (N = 337).

Career Development Item	Mean	SD
Career development (overall)	3.38	1.187
Potential development	3.22	1.126
Career prospects	3.43	.962
Advancement	3.46	1.032
Performance	3.27	1.038
Learning & development	3.38	.925
Counseling	3.28	1.179
Appraisal	3.40	.918
Cross-functional transfers	3.40	.995
Job rotation	3.12	1.144
Mentoring	2.91	1.317
Work flexibility	3.33	1.006

Table 3. Descriptive statistics for career development items (N = 337).

4.3 Correlation Analysis

Pearson correlation analysis revealed statistically significant positive relationships between career development and all twelve employee engagement items ($p < .01$ in most cases). The strongest associations with career development were observed for understanding mission ($r = .557$), excitement in the job ($r = .554$), excellent workplace ($r = .522$), and feeling of pride ($r = .520$). Smaller but still significant correlations were found for contribution ($r = .282$) and attachment and dedication ($r = .408$). Among the engagement items themselves, the highest inter-item correlation was .87 (between involvement and attachment/dedication), confirming both strong internal coherence within the engagement construct and adequate discriminant separation from career development as a distinct variable. Overall, the pattern of correlations indicates that higher levels of employee engagement are systematically associated with higher levels of perceived career development.

4.4 Exploratory Factor Analysis of Employee Engagement

Sampling adequacy for factor analysis was confirmed by a Kaiser-Meyer-Olkin (KMO) measure of .883 and a significant Bartlett's test of sphericity ($\chi^2 = 1818.94$, $df = 66$, $p < .001$), both well above conventional thresholds. Principal component extraction with varimax rotation reduced the twelve employee engagement items to three factors with eigenvalues greater than 1, jointly explaining 66.53% of total variance.

Factor	Eigenvalue	% Variance	Cumulative %
1 — Drive	5.158	42.99%	42.99%
2 — Commitment	1.808	15.07%	58.05%
3 — Proactive Behavior	1.017	8.48%	66.53%

Table 4. Eigenvalues and variance explained by the three extracted employee engagement factors.

The three factors were interpreted and labeled based on their highest-loading items as follows:

- Factor 1 — Drive: involvement, attachment and dedication, understanding mission, excellent workplace, feeling of pride, and excitement in the job. Drive reflects an innate and determined urge to attain a goal or satisfy a need.
- Factor 2 — Commitment: participation, personal accomplishment, contribution, and goal achievement. Commitment reflects willingness to devote time and energy to a job.
- Factor 3 — Proactive Behavior: care for organization and discretionary effort. Proactive behavior describes employees who take initiative to get things done.

Communalities for all items were high (ranging from .519 to .766), confirming that the three-factor solution efficiently captured the variance in the original twelve items.

4.5 Predictive Effect of Employee Engagement on Career Development

To test Hypothesis 2 — that employee engagement predicts career development — the three extracted factor scores (Drive, Commitment, Proactive Behavior) were entered as independent variables in a multiple linear regression with career development as the dependent variable.

Model	R	R ²	Adjusted R ²	SE of Estimate
1	.695	.483	.478	5.628

Table 5. Regression model summary predicting career development from Drive, Commitment, and Proactive Behavior.

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	9849.60	3	3283.20	103.66	.000
Residual	10546.72	333	31.67		
Total	20396.32	336			

Table 6. ANOVA for the overall regression model (DV: career development).

Variable	B	SE	Beta	t	Sig.
(Constant)	4.778	2.284	—	2.092	.037
Drive	4.036	.467	.427	8.634	.000
Commitment	3.569	.497	.313	7.175	.000
Proactive Behavior	1.440	.604	.116	2.384	.018

Table 7. Standardized and unstandardized regression coefficients for the three predictors.

The overall regression model was statistically significant, $F(3, 333) = 103.66$, $p < .001$, explaining 48.3% of the variance in career development ($R^2 = .483$, adjusted $R^2 = .478$). All three factors contributed significant, independent positive effects. Drive emerged as the strongest predictor ($\beta = .427$, $p < .001$), followed by Commitment ($\beta = .313$, $p < .001$) and Proactive Behavior ($\beta = .116$, $p = .018$). The resulting prediction equation is:

$$\text{Career Development} = 4.778 + 4.036(\text{Drive}) + 3.569(\text{Commitment}) + 1.440(\text{Proactive Behavior})$$

These results substantiate Hypothesis 2: employee engagement in organizations significantly predicts career development.

4.6 Moderation Effects of Demographic Variables

Using the Preacher and Hayes approach, the moderating role of five demographic variables — experience, age, income, qualification, and gender — was tested on the relationship between each engagement factor and career development.

- Experience: Significant moderation was found. Drive and experience jointly explained 41% of variance in career development ($R^2 = .41$, $p < .001$); Commitment and experience explained 39% ($p < .001$); Proactive Behavior and experience explained 23% ($p < .001$). Simple-slope analysis showed Commitment's effect on career development was strongest for employees with 5–10 years of experience (+9.72 points) and weaker for those with more than 15 years (+7.00 points).
- Age: Significant moderation was found. Drive and age jointly explained 41% of variance ($R^2 = .4149$, $p < .001$); Commitment and age explained 36% ($p < .001$); Proactive Behavior and age explained 23% ($p < .001$). Drive's effect

on career development was strongest for employees aged 26–35 (+7.96 points) and weakest for those aged 46 and above (+5.08 points).

- **Income:** No significant moderation was found. The interaction terms for income with all three engagement factors were not statistically significant, indicating that the employee engagement–career development relationship is neither strengthened nor weakened by income level.
- **Qualification:** Significant moderation was found. Drive and qualification jointly explained 43.88% of variance ($R^2 = .4388$, $p < .001$); Commitment and qualification explained 38.15% ($p < .001$); Proactive Behavior and qualification explained 23.56% ($p < .001$). Drive's effect was strongest for graduate-qualified employees (+7.48 points) relative to diploma- (+5.14) and postgraduate-qualified employees (+4.04).
- **Gender:** Significant moderation was found. Drive and gender jointly explained 38.37% of variance ($R^2 = .3837$, $p < .001$); Commitment and gender explained 29.26% ($p < .001$); Proactive Behavior and gender explained 22.53% ($p < .001$). Commitment's effect on career development was significant for male employees (+6.62 points).

4.7 Direct Effects of Demographic Variables

One-way ANOVA and independent-samples t-tests were used to test the direct effects of demographic variables on employee engagement and career development independently of one another.

- Experience significantly affected both employee engagement ($p < .001$) and career development ($p = .012$). Post-hoc Scheffé comparisons showed employees with more than 15 years of experience reported significantly lower engagement than those with less experience, and significantly different career development scores compared with employees having 5–10 years of experience.
- Age significantly affected both employee engagement ($p < .001$) and career development ($p = .009$). Employees aged 46 and above reported significantly lower engagement than younger age groups, and significantly different career development relative to the 26–35 age group.
- Income significantly affected employee engagement ($p < .001$) but not career development ($p = .072$). Employees earning $\geq 60,000$ and above reported significantly different engagement than those in lower income brackets.
- Qualification significantly affected both employee engagement ($p < .05$) and career development ($p = .027$). Graduate-qualified employees differed significantly from postgraduate employees on engagement, and from diploma-qualified employees on career development.
- Gender did not significantly affect either employee engagement ($t = -.705$, $p = \text{n.s.}$) or career development ($t = -.288$, $df = 335$, $p = .774$).

4.8 Summary of Hypothesis Testing

#	Hypothesis (Null Form, Abbreviated)	Decision
H1	No relationship between EE and career development	Rejected
H2	EE does not result in career development	Rejected
H3	No moderation by experience on EE–CD relationship	Rejected
H4	No moderation by age on EE–CD relationship	Rejected
H5	No moderation by income on EE–CD relationship	Accepted
H6	No moderation by qualification on EE–CD relationship	Rejected
H7	No moderation by gender on EE–CD relationship	Rejected

#	Hypothesis (Null Form, Abbreviated)	Decision
H8	EE not influenced by age	Rejected
H9	EE not influenced by experience	Rejected
H10	EE not affected by income	Rejected
H11	EE not affected by qualification	Rejected
H12	EE not influenced by gender	Accepted
H13	CD not influenced by age	Rejected
H14	CD not influenced by experience	Rejected
H15	CD not affected by income	Accepted
H16	CD not influenced by qualification	Rejected
H17	CD not affected by gender	Accepted

Table 8. Summary of results of hypothesis testing (EE = Employee Engagement; CD = Career Development).

Of the seventeen null hypotheses tested, thirteen were rejected and four were accepted (retained). The pattern of results indicates that employee engagement is robustly and predictively linked to career development, and that this relationship is conditioned by experience, age, and qualification, but not by income or gender. Independently, engagement and career development both vary significantly with age, experience, and qualification, while only engagement (not career development) varies significantly with income, and neither varies significantly with gender.

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