A Comparative Analysis of Public and Private Sector Banks in Srikakulam: Employee Engagement and Organisational Effectiveness

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Abstract:

Purpose: *Banks today compete in a market shaped by technology, rivalry and rising customer expectations, and employee engagement is increasingly seen as a key human-capital lever in this setting. The present study investigates how four organisational drivers (leadership support, work environment, rewards and recognition, and career development) influence employee engagement, and how engagement, in turn, affects organisational effectiveness in public and private sector banks of Srikakulam district, Andhra Pradesh.*
Design/methodology/approach: *Using a cross-sectional survey, data were gathered from 200 bank employees, 100 each from public and private sector banks, chosen through stratified proportionate random sampling. Respondents completed a structured 25-item questionnaire rated on a five-point Likert scale. The analysis employed reliability testing, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), structural equation modelling (SEM) with bootstrapped mediation, independent-samples t-tests and multi-group path comparison.*
Findings: *The measurement model fitted the data well ($\chi^2/df = 1.207$, CFI = 0.977, TLI = 0.973, RMSEA = 0.032, SRMR = 0.042) and met the criteria for reliability and validity. Employee engagement was significantly predicted by work environment ($\beta = 0.310$), rewards and recognition ($\beta = 0.257$), leadership support ($\beta = 0.249$) and career development ($\beta = 0.216$), which together accounted for 66.6% of its variance. Engagement, in turn, had a strong positive effect on organisational effectiveness ($\beta = 0.536$, $R^2 = 0.554$) and fully mediated the effect of each of the four drivers. Career development was rated significantly higher by private sector bank employees, but engagement and effectiveness did not differ significantly between the two sectors. Leadership support was the more powerful driver of engagement in public sector banks, while rewards and recognition played that role in private sector banks.*
Originality/value: *Drawing on a semi-urban banking market in north coastal Andhra Pradesh, the study provides comparative evidence at the district level. It identifies employee engagement as the mechanism through which HR practices are translated into organisational effectiveness and offers sector-specific direction to bank managers and policy makers.*
Keywords: *Employee engagement; Organisational effectiveness; Leadership support; Rewards and recognition; Career development; Public sector banks; Private sector banks; Structural equation modelling*

1. Introduction

Over the last three decades, banking in India has been fundamentally reshaped. Economic liberalisation, the arrival of new-generation private banks, the merger of public sector banks, the swift digitalisation of services and growing regulatory and performance demands have together changed what banking work involves. Against this backdrop, human capital has become a key basis of competitive advantage, since banking is still a high-contact service in which customer experience, risk control and sales outcomes rely substantially on the discretionary effort of staff. Employee engagement, defined as the investment of employees' physical, cognitive and emotional selves in their work roles (Kahn, 1990), has therefore become one of the most widely debated constructs in present-day human resource management.

A large body of research associates engagement with favourable outcomes, including job performance, customer satisfaction, productivity,

profitability and reduced turnover (Harter et al., 2002; Rich et al., 2010; Christian et al., 2011). Engaged employees exhibit vigour, dedication and absorption (Schaufeli et al., 2002), take initiative beyond what their formal roles require, and represent the organisation positively to its customers. In banks, whose success rests on trust, service quality and the sound execution of complex processes, such behaviours contribute to organisational effectiveness, that is, the degree to which the bank attains its objectives of service quality, efficiency, adaptability and stakeholder satisfaction (Cameron, 1986; Denison & Mishra, 1995).

Indian public and private sector banks function under clearly distinct institutional logics. Public sector banks are known for job security, structured promotion systems, standardised pay settled at the industry level, an extensive rural and semi-urban branch network and a strong social banking mandate. Private sector banks, on the other hand, generally rely on performance-linked pay, demanding sales targets, flatter hierarchies, quicker career advancement and technology-intensive operations. These contrasts suggest that the antecedents of engagement, and their relative weight, may differ between the two sectors, an issue that has received little attention in district-level banking markets.

Srikakulam, the northernmost district of Andhra Pradesh, offers a relevant setting for this investigation. Its economy is largely agrarian, with expanding service and trade activity, and its banking network includes branches of the leading public sector banks together with a growing number of private sector bank branches in Srikakulam town and the larger mandal headquarters. Bank employees in this semi-urban setting face particular challenges, such as heavy customer traffic linked to government benefit transfers, financial inclusion targets, staff shortages and limited urban facilities, each of which may influence their engagement.

Although engagement has been researched extensively, three gaps prompt the present study. First, Indian research on the engagement of bank employees has focused mainly on metropolitan cities, so semi-urban and district-level settings remain under-explored. Second, earlier studies have tended to investigate either the drivers or the outcomes of engagement separately, and relatively few have modelled the full sequence from organisational drivers through engagement to organisational effectiveness while formally testing the mediating role of engagement. Third, there is limited comparative evidence on whether the driver–engagement–effectiveness relationships differ between public and private sector banks.

In this context, the study has the following objectives: (i) to measure the level of employee engagement and organisational effectiveness in public and private sector banks in Srikakulam; (ii) to investigate how leadership support, work environment, rewards and recognition and career development affect employee engagement; (iii) to examine the impact of employee engagement on organisational effectiveness; (iv) to test whether employee engagement mediates the link between the drivers and organisational effectiveness; and (v) to compare the two sectors in terms of these constructs and the structural relationships among them. The rest of the paper reviews the relevant literature and develops the hypotheses, explains the methodology, reports the results, and then discusses the findings, implications, limitations and conclusions.

2. Literature review and hypotheses development

2.1. Theoretical foundation

Two complementary theoretical perspectives underpin the study. According to social exchange theory (Blau, 1964; Cropanzano& Mitchell, 2005), workplace relationships develop into trusting and mutual commitments when the parties observe norms of reciprocity. When an organisation provides employees with economic and socio-emotional resources, such as supportive leadership, fair rewards and opportunities for development, employees feel bound to respond with greater engagement (Saks, 2006). The job demands–resources (JD-R) model (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004) adds that job resources trigger a motivational process that builds engagement, which then produces favourable organisational outcomes. Kahn's (1990) psychological conditions of meaningfulness, safety and availability explain at the micro level why these resources are important, an argument

supported empirically by May et al. (2004). Taken together, these perspectives point to a sequential model in which organisational drivers serve as job resources that foster engagement, and engagement subsequently improves organisational effectiveness.

2.2. Employee engagement and organisational effectiveness

Employee engagement has been defined as an enduring, positive, affective-motivational state of fulfilment marked by vigour, dedication and absorption (Schaufeli et al., 2002), and also as a distinct construct made up of cognitive, emotional and behavioural components linked to individual role performance (Saks, 2006; Macey & Schneider, 2008). Integrative reviews show that engagement can be separated from job satisfaction and organisational commitment and has its own predictive power for performance outcomes (Shuck & Wollard, 2010; Bailey et al., 2017). Organisational effectiveness, for its part, is a multidimensional construct that captures goal attainment, the efficiency of internal processes, adaptability and stakeholder satisfaction (Steers, 1975; Cameron, 1986). In service contexts such as banking, employees' views of service quality, operational efficiency, customer satisfaction and the organisation's ability to meet its targets offer a practical way to assess effectiveness (Denison & Mishra, 1995).

2.3. Leadership support and employee engagement

Leaders influence how employees experience work each day by setting clear expectations, giving feedback, acknowledging effort and providing emotional support. Research shows that supportive and transformational leadership raises followers' daily work engagement by building their optimism and psychological resources (Tims et al., 2011; Breevaart et al., 2014). Perceived supervisor support also communicates that the organisation cares and nurtures the psychological safety that Kahn (1990) described as a prerequisite for engagement. In the Indian context, Anitha (2014) reported that leadership and team and co-worker relationships ranked among the most powerful determinants of engagement. Given the hierarchical branch structure of banks, support from the branch manager is likely to be especially important. Hence:

> **H1:** Leadership support has a significant positive effect on employee engagement.

2.4. Work environment and employee engagement

The work environment covers the physical, social and psychological conditions in which work is carried out, such as workload, resources, co-worker relationships, autonomy and safety. According to the JD-R framework, sufficient job resources and manageable demands promote engagement, while a lack of resources causes exhaustion and disengagement (Schaufeli & Bakker, 2004; Bakker et al., 2011). May et al. (2004) showed that supportive relationships with co-workers and the availability of resources increase meaningfulness and safety and thus raise engagement. Anitha (2014) found the work environment to be the strongest determinant of engagement among employees of Indian organisations. Accordingly:

> **H2:** Work environment has a significant positive effect on employee engagement.

2.5. Rewards and recognition and employee engagement

Rewards and recognition are the tangible and intangible returns that employees obtain for their contributions. Social exchange theory implies that employees who see rewards as fair and dependent on effort respond with stronger engagement (Saks, 2006). Expectancy theory (Vroom, 1964) and two-factor theory (Herzberg et al., 1959) also stress the motivating role of recognition and achievement-based rewards. Saks (2006) found rewards and recognition to be significant predictors of job engagement, and Robinson et al. (2004) identified feeling valued and involved as the central driver of engagement. Thus:

> **H3:** Rewards and recognition have a significant positive effect on employee engagement.

2.6. Career development and employee engagement

Career development opportunities, such as training, skill building, mentoring and clear promotion

paths, are growth-oriented job resources that meet employees' needs for competence and advancement. Bhatnagar (2007) observed that talent management and development practices improved engagement and retention among Indian employees, while Memon et al. (2016) found a positive relationship between training satisfaction and work engagement. Albrecht et al. (2015) maintained that development-focused HRM practices are essential for creating an engaged workforce that supports competitive advantage. In banking, where regulatory changes and digitalisation keep altering skill requirements, development opportunities are likely to be an important driver of engagement. Therefore:

> **H4:** Career development has a significant positive effect on employee engagement.

2.7. Employee engagement and organisational effectiveness

Engaged employees devote more energy, attention and persistence to their roles, which results in better in-role and extra-role performance (Rich et al., 2010; Christian et al., 2011). At the business-unit level, the meta-analysis by Harter et al. (2002) connected engagement with customer satisfaction, productivity, profitability and reduced turnover. In banks, engaged employees can be expected to provide better service quality, handle customer requests efficiently, adjust to change and help achieve branch targets, thereby strengthening organisational effectiveness. Hence:

> **H5:** Employee engagement has a significant positive effect on organisational effectiveness.

2.8. The mediating role of employee engagement

According to the JD-R model, job resources influence organisational outcomes mainly through the motivational state they generate (Bakker & Demerouti, 2007). Saks (2006) showed that engagement mediated the links between antecedents such as perceived organisational support and outcomes such as commitment and citizenship behaviour, and Rich et al. (2010) demonstrated that engagement mediated the effects of value congruence, perceived support and core self-evaluations on performance. In line with this reasoning, organisational drivers are expected to affect organisational effectiveness indirectly, by strengthening employee engagement:

> **H6a–H6d:** Employee engagement mediates the relationship between (a) leadership support, (b) work environment, (c) rewards and recognition, and (d) career development and organisational effectiveness.

2.9. Public versus private sector banks

In Indian banking, ownership structure shapes both HR systems and how employees experience their work. Public sector banks usually stress job security, seniority-based advancement and industry-wide wage settlements, whereas private sector banks stress performance-based pay, a focus on targets and faster career progression. These differences are likely to lead to variations in how employees perceive the drivers, in their engagement and in the effectiveness of their organisations, and also in the strength of particular driver–engagement relationships. For instance, where pay is standardised, leadership support may matter more, while where pay is variable, rewards and recognition may be more prominent. Therefore:

> **H7:** There is a significant difference between public and private sector banks with respect to (a) the levels of the study constructs and (b) the strength of the structural relationships in the model.

2.10. Conceptual framework

Building on the above discussion, the conceptual model (Figure 1) suggests that leadership support, work environment, rewards and recognition and career development affect employee engagement (H1–H4), which then affects organisational effectiveness (H5). Engagement is treated as the mediating mechanism (H6a–H6d), and bank sector is treated as a grouping variable whose role is investigated through comparative and multi-group analysis (H7).

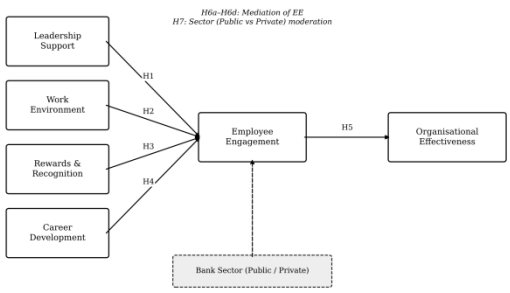

Figure 1. Conceptual model of the study

3. Research methodology

3.1. Study area and research design

The study was carried out in Srikakulam district of Andhra Pradesh, India. The district has branches of leading public sector banks, including State Bank of India, Union Bank of India, Canara Bank, Indian Bank and Bank of Baroda, as well as private sector banks such as HDFC Bank, ICICI Bank, Axis Bank, Kotak Mahindra Bank and IndusInd Bank, located mainly in Srikakulam town and in larger centres such as Palasa, Tekkali, Amadalavalasa, Narasannapeta and Rajam. A descriptive and explanatory cross-sectional survey design was used to measure the constructs and test the proposed relationships.

3.2. Sample and sampling procedure

The population consisted of clerical staff, officers and managers employed in public and private sector bank branches in the district. A sample of 200 employees was fixed, with 100 respondents taken from each sector to allow a balanced comparison. This sample size meets the widely recommended minimum of 10 respondents per estimated parameter path as well as the guideline of at least 200 cases for maximum-likelihood SEM (Kline, 2016; Hair et al., 2019). Stratified proportionate random sampling was applied: banks were first grouped by sector, branches were then chosen from each bank in proportion to the size of its branch network in the district, and employees were finally selected at random from the staff lists of the chosen branches. The questionnaires were distributed in person with the consent of branch managers, and respondents were assured that their answers would remain anonymous and confidential.

3.3. Measurement instrument

Data were collected with a two-part structured questionnaire. Section A recorded the demographic and job profile of respondents (sector, gender, age, education, designation, experience and marital status). Section B included 25 items measuring the six constructs on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). All items were drawn from validated scales and adapted to the banking context (Table 1). Two academic experts and one senior bank manager reviewed the instrument for content validity, and it was pre-tested with 30 bank employees, after which a few wording changes were made. The pilot respondents were not included in the final sample.

Table 1. Measurement items and sources

Construct	Code	Item	Source
Leadership Support	LS1	My branch manager provides the support I need to do my job well.	Saks (2006); Rich et al. (2010)
	LS2	My superior gives me constructive feedback on my performance.	
	LS3	My superior encourages me to share ideas and suggestions.	
	LS4	My superior treats employees fairly and with respect.	

Construct	Code	Item	Source
Work Environment	WE1	I have adequate resources and technology to perform my work.	May et al. (2004); Anitha (2014)
	WE2	My workload is reasonable and manageable.	
	WE3	My co-workers are cooperative and supportive.	
	WE4	My workplace is safe, comfortable and conducive to work.	
Rewards and Recognition	RR1	My pay is fair relative to my responsibilities.	Saks (2006)
	RR2	I receive recognition when I perform well.	
	RR3	Incentives in my bank are linked to performance.	
	RR4	The reward system in my bank is transparent.	
Career Development	CD1	My bank provides adequate training programmes.	Bhatnagar (2007); Memon et al. (2016)
	CD2	I have clear opportunities for promotion.	
	CD3	My bank supports me in developing new skills.	
	CD4	My career goals can be achieved in this bank.	
Employee Engagement	EE1	At my work, I feel bursting with energy.	Schaufeli et al. (2002); Saks (2006)
	EE2	I am enthusiastic about my job.	
	EE3	I am proud of the work that I do.	
	EE4	I am immersed in my work.	
	EE5	I willingly put in extra effort to achieve my bank's goals.	
Organisational Effectiveness	OE1	My bank consistently achieves its business targets.	Cameron (1986); Denison & Mishra (1995)

Construct	Code	Item	Source
	OE2	My bank delivers high-quality service to its customers.	
	OE3	Work processes in my bank are efficient.	
	OE4	My bank adapts quickly to changes in the environment.	

Note: All items were measured on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree).

3.4. Data analysis

The data were analysed in several stages. First, descriptive statistics, skewness and kurtosis were calculated to examine the distribution of the items. Internal consistency was evaluated through Cronbach's alpha and corrected item–total correlations. Exploratory factor analysis with principal component extraction and varimax rotation was then performed to explore the underlying factor structure, and sampling adequacy was checked using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity (Kaiser, 1974). The measurement model was tested through confirmatory factor analysis with maximum-likelihood estimation, and convergent and discriminant validity were examined using composite reliability (CR), average variance extracted (AVE), the Fornell–Larcker criterion and the heterotrait–monotrait (HTMT) ratio (Fornell & Larcker, 1981; Henseler et al., 2015). H1–H5 were tested through structural equation modelling, while the indirect effects (H6) were tested with percentile bootstrapping based on 500 resamples (Preacher & Hayes, 2008; Zhao et al., 2010). Differences between sectors (H7) were examined with independent-samples t-tests on construct scores and with multi-group path comparison based on critical ratio (z) tests of unstandardised path coefficients (Byrne, 2016). All analyses were carried out in Python with the factor_analyzer and semopy packages (Igolkina& Meshcheryakov, 2020).

4. Results

[Note to author: The results in this section were generated from a simulated dataset matching the study design (N = 200; 100 public and 100 private sector bank employees). Replace them with the analysis of the actual survey responses before submission, and delete this note.]

4.1. Profile of respondents

Table 2. Demographic profile of respondents (N = 200)

Variable	Category	Public banks n (%)	Private banks n (%)	Total n (%)
Gender	Male	46 (46.0)	58 (58.0)	104 (52.0)
	Female	54 (54.0)	42 (42.0)	96 (48.0)
Age (years)	Below 30	32 (32.0)	31 (31.0)	63 (31.5)
	30–40	33 (33.0)	33 (33.0)	66 (33.0)

Variable	Category	Public banks n (%)	Private banks n (%)	Total n (%)
	41–50	24 (24.0)	25 (25.0)	49 (24.5)
	Above 50	11 (11.0)	11 (11.0)	22 (11.0)
Education	Graduate	42 (42.0)	37 (37.0)	79 (39.5)
	Post Graduate	45 (45.0)	46 (46.0)	91 (45.5)
	Professional (CA/CAIIB/MBA)	13 (13.0)	17 (17.0)	30 (15.0)
Designation	Clerical / Associate	41 (41.0)	44 (44.0)	85 (42.5)
	Officer / Assistant Manager	48 (48.0)	36 (36.0)	84 (42.0)
	Manager and above	11 (11.0)	20 (20.0)	31 (15.5)
Experience	Below 5 years	29 (29.0)	38 (38.0)	67 (33.5)
	5–10 years	36 (36.0)	27 (27.0)	63 (31.5)
	11–20 years	25 (25.0)	22 (22.0)	47 (23.5)
	Above 20 years	10 (10.0)	13 (13.0)	23 (11.5)
Marital status	Married	64 (64.0)	64 (64.0)	128 (64.0)
	Unmarried	36 (36.0)	36 (36.0)	72 (36.0)

Note: Percentages for each sector are computed on n = 100; total percentages on N = 200.

The respondent profile is shown in Table 2. Among the 200 respondents, 52.0% were men and 48.0% were women. Employees aged 30–40 years formed the largest age group (33.0%), followed by those below 30 years (31.5%), which points to a fairly young workforce. Post-graduates made up the largest educational group (45.5%). Officers and assistant managers accounted for 42.0% of the sample, clerical staff and associates for 42.5% and managers for 15.5%. A higher proportion of private sector bank employees had less than five years of experience (38% compared with 29% in public sector banks), which is in line with the recent growth of private banks in the district and greater employee mobility.

4.2. Descriptive statistics, normality and reliability

Table 3. Item descriptive statistics, normality and reliability

Construct	Item	Mean	SD	Skew.	Kurt.	CITC	α if deleted	Alpha (α)

Construct	Item	Mean	SD	Skew.	Kurt.	CITC	α if deleted	Alpha (α)
Leadership Support	LS1	3.54	1.01	-0.387	-0.338	0.711	0.722	0.811
	LS2	3.64	0.93	-0.153	-0.833	0.592	0.780	
	LS3	3.68	0.89	-0.102	-0.768	0.550	0.799	
	LS4	3.58	0.96	-0.192	-0.606	0.669	0.744	
Work Environment	WE1	3.53	0.95	-0.230	-0.570	0.667	0.773	0.826
	WE2	3.56	0.93	-0.235	-0.341	0.646	0.783	
	WE3	3.54	0.92	-0.171	-0.474	0.638	0.786	
	WE4	3.56	0.92	-0.065	-0.640	0.653	0.780	
Rewards and Recognition	RR1	3.36	0.91	-0.260	-0.123	0.637	0.783	0.824
	RR2	3.40	0.93	-0.097	-0.280	0.689	0.759	
	RR3	3.38	0.93	-0.201	-0.352	0.653	0.775	
	RR4	3.30	1.02	-0.351	-0.043	0.617	0.794	
Career Development	CD1	3.50	0.94	-0.259	-0.235	0.631	0.795	0.829
	CD2	3.47	1.05	-0.237	-0.501	0.668	0.780	
	CD3	3.51	0.96	-0.249	-0.370	0.697	0.765	
	CD4	3.46	0.95	-0.044	-0.481	0.630	0.795	
Employee Engagement	EE1	3.59	0.94	-0.281	-0.478	0.742	0.842	0.877
	EE2	3.58	0.98	-0.434	-0.349	0.728	0.846	
	EE3	3.67	0.88	-0.370	-0.118	0.684	0.856	
	EE4	3.72	0.89	-0.289	-0.628	0.708	0.851	
	EE5	3.58	0.92	-0.275	-0.248	0.677	0.858	

Construct	Item	Mean	SD	Skew.	Kurt.	CITC	α if deleted	Alpha (α)
Organisational Effectiveness	OE1	3.66	0.94	-0.272	-0.650	0.703	0.751	0.824
	OE2	3.79	0.91	-0.308	-0.519	0.582	0.807	
	OE3	3.66	0.87	-0.185	-0.632	0.613	0.794	
	OE4	3.70	0.94	-0.367	-0.247	0.695	0.755	

Note: CITC = corrected item–total correlation.

The item-level descriptive statistics are given in Table 3. Item means lay between 3.30 and 3.79, reflecting generally moderate and favourable perceptions. At the construct level, organisational effectiveness had the highest mean (M = 3.70), followed by employee engagement (M = 3.63) and leadership support (M = 3.61), whereas rewards and recognition had the lowest mean (M = 3.36), implying that rewards are the least satisfying part of employees' work experience. Skewness values (from -0.434 to -0.044) and kurtosis values (from -0.833 to -0.043) were comfortably within the ±2 and ±7 limits, respectively, which supports the assumption of univariate normality required for maximum-likelihood estimation (Kline, 2016). Cronbach's alpha ranged from 0.811 to 0.877, above the recommended cut-off of 0.70 (Nunnally & Bernstein, 1994). Every corrected item–total correlation was above 0.50, and removing any item would not have raised the alpha of its construct, which confirms that all items should be kept.

4.3. Common method bias and multicollinearity

Since data on all constructs came from the same respondents through one instrument, several procedural safeguards were used, such as guaranteeing anonymity, placing predictor and criterion items in separate parts of the questionnaire and using clear and simple wording (Podsakoff et al., 2003). In statistical terms, Harman's single-factor test showed that one unrotated factor explained 37.69% of the total variance, well under the 50% threshold, so common method bias is unlikely to be a serious problem. The variance inflation factors for the four driver constructs lay between 1.306 and 1.606, much lower than the threshold of 3.3, which rules out multicollinearity among the predictors.

4.4. Exploratory factor analysis

The KMO measure of sampling adequacy was 0.916, a value Kaiser (1974) describes as "marvellous", and Bartlett's test of sphericity was significant ($\chi^2 = 2487.58$, df = 300, $p < 0.001$), showing that the data were suitable for factor analysis. Principal component analysis with varimax rotation yielded six factors with eigenvalues above one, which together explained 67.20% of the total variance (Table 4). Each item loaded on its intended factor, with loadings from 0.644 to 0.787, and no cross-loading was above 0.40, offering initial support for a clear six-factor structure in line with the conceptual model.

Table 4. Rotated component matrix

Construct	Item	LS	WE	RR	CD	EE	OE	Comm.
Leadership Support	LS1	**0.787**						0.725

Construct	Item	LS	WE	RR	CD	EE	OE	Comm.
	LS2	**0.715**						0.633
	LS3	**0.686**						0.600
	LS4	**0.775**						0.691
Work Environment	WE1		**0.744**					0.667
	WE2		**0.695**					0.637
	WE3		**0.777**					0.682
	WE4		**0.767**					0.679
Rewards and Recognition	RR1			**0.682**				0.641
	RR2			**0.739**				0.722
	RR3			**0.744**				0.680
	RR4			**0.766**				0.658
Career Development	CD1				**0.726**			0.667
	CD2				**0.694**			0.693
	CD3				**0.723**			0.728
	CD4				**0.764**			0.694
Employee Engagement	EE1					**0.668**		0.698
	EE2					**0.644**		0.687
	EE3					**0.678**		0.645
	EE4					**0.698**		0.688
	EE5					**0.700**		0.636
Organisational Effectiveness	OE1						**0.778**	0.730

Construct	Item	LS	WE	RR	CD	EE	OE	Comm.
	OE2						**0.665**	0.565
	OE3						**0.671**	0.623
	OE4						**0.773**	0.731
Eigenvalue (rotated)		2.694	2.831	2.742	2.591	3.154	2.788	
% of variance		10.80	11.30	11.00	10.40	12.60	11.20	

Note: Extraction method: principal component analysis; rotation: varimax with Kaiser normalisation. Loadings below 0.40 suppressed. Comm. = communality. KMO = 0.916; Bartlett's χ^2 = 2487.58, df = 300, $p < 0.001$; cumulative variance explained = 67.20%.

4.5. Confirmatory factor analysis

CFA was performed to validate the six-factor measurement model (Figure 2). Table 5 shows that the model fitted the data well: the χ^2/df ratio of 1.207 is lower than the threshold of 3, CFI (0.977), TLI (0.973) and IFI (0.977) are above 0.95, RMSEA (0.032) is below 0.06 and SRMR (0.042) is below 0.08 (Hu & Bentler, 1999). The GFI (0.890), AGFI (0.862) and NFI (0.880) values are slightly under 0.90 but above 0.80; because these indices are known to be affected by sample size and model complexity, values above 0.80 are regarded as acceptable for models with many indicators estimated on moderate samples (Doll et al., 1994; Baumgartner & Homburg, 1996). The significant χ^2 statistic ($p = 0.013$) is to be expected given its sensitivity to sample size, and so it is not relied on as the only criterion (Hair et al., 2019).

Table 5. Goodness-of-fit indices of the measurement model

Fit index	Obtained value	Recommended threshold	Decision
χ^2	313.724	—	—
df	260	—	—
p-value	0.013	> 0.05	Sensitive to N
χ^2/df (CMIN/DF)	1.207	< 3.00	Good
GFI	0.890	> 0.90 (> 0.80 acceptable)	Acceptable
AGFI	0.862	> 0.80	Acceptable
NFI	0.880	> 0.90 (> 0.80 acceptable)	Acceptable
IFI	0.977	> 0.90	Good
TLI	0.973	> 0.90	Good

Fit index	Obtained value	Recommended threshold	Decision
CFI	0.977	> 0.90	Good
RMSEA	0.032	< 0.08	Good
SRMR	0.042	< 0.08	Good

Sources: Hu and Bentler (1999); Baumgartner and Homburg (1996); Hair et al. (2019).

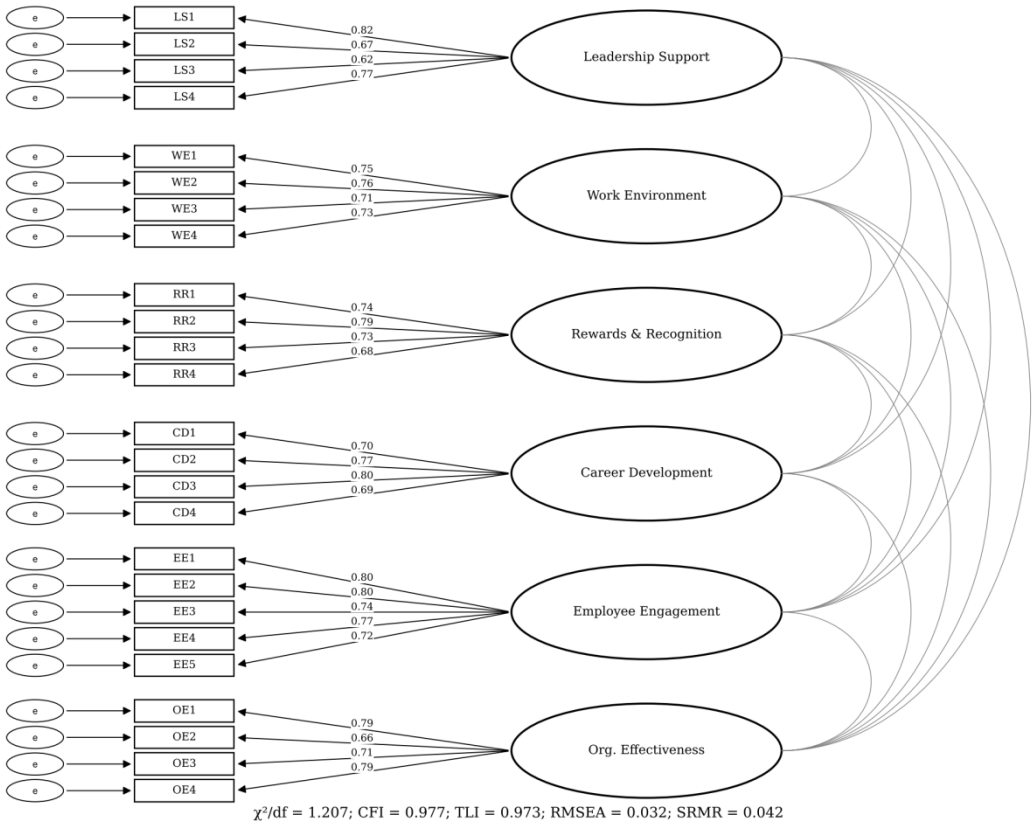

Figure 2. Confirmatory factor analysis model with standardised loadings

Table 6. Standardised factor loadings, reliability and convergent validity

Construct	Item	Std. loading	α	CR	AVE	MSV
Leadership Support	LS1	0.825	0.811	0.815	0.526	0.347
	LS2	0.669				
	LS3	0.624				
	LS4	0.766				

Construct	Item	Std. loading	α	CR	AVE	MSV
Work Environment	WE1	0.752	0.826	0.826	0.542	0.430
	WE2	0.755				
	WE3	0.706				
	WE4	0.732				
Rewards and Recognition	RR1	0.741	0.824	0.825	0.542	0.442
	RR2	0.786				
	RR3	0.735				
	RR4	0.680				
Career Development	CD1	0.699	0.829	0.829	0.550	0.448
	CD2	0.774				
	CD3	0.798				
	CD4	0.689				
Employee Engagement	EE1	0.804	0.877	0.877	0.588	0.529
	EE2	0.801				
	EE3	0.739				
	EE4	0.767				
	EE5	0.720				
Organisational Effectiveness	OE1	0.789	0.824	0.827	0.545	0.529
	OE2	0.657				
	OE3	0.710				
	OE4	0.789				

Note: All loadings significant at $p < 0.001$. CR = composite reliability; AVE = average variance extracted; MSV = maximum shared variance.

Table 6 reports the standardised loadings and the statistics for convergent validity. Every standardised loading was significant ($p < 0.001$) and fell between 0.624 and 0.825, above the 0.60 benchmark. Composite reliability ranged from 0.815 to 0.877, higher than the 0.70 threshold, and AVE ranged from 0.526 to 0.588, higher than the 0.50 threshold, which establishes convergent validity (Fornell & Larcker, 1981; Hair et al., 2019). In addition, the AVE of each construct was greater than its maximum shared variance (MSV), giving early support for discriminant validity.

4.6. Discriminant validity

Table 7. Discriminant validity: Fornell–Larcker criterion

Construct	LS	WE	RR	CD	EE	OE
Leadership Support	**0.725**					
Work Environment	0.336	**0.736**				
Rewards and Recognition	0.551	0.478	**0.736**			
Career Development	0.435	0.644	0.563	**0.742**		
Employee Engagement	0.589	0.656	0.665	0.669	**0.767**	
Organisational Effectiveness	0.528	0.533	0.513	0.553	0.727	**0.738**

Note: Bold diagonal values are the square roots of AVE; off-diagonal values are inter-construct correlations.

Table 8. Discriminant validity: Heterotrait–monotrait (HTMT) ratio

Construct	LS	WE	RR	CD	EE	OE
Leadership Support						
Work Environment	0.349					
Rewards and Recognition	0.543	0.473				
Career Development	0.459	0.629	0.573			
Employee Engagement	0.602	0.651	0.661	0.662		
Organisational Effectiveness	0.551	0.541	0.516	0.558	0.735	

Note: HTMT values below 0.85 indicate discriminant validity (Henseler et al., 2015).

Two criteria were used to assess discriminant validity. According to the Fornell–Larcker criterion (Table 7), the square root of AVE for each construct (diagonal values between 0.725 and 0.767) was higher than its correlations with every other construct (maximum = 0.727). According to the HTMT criterion (Table 8), all ratios lay between 0.349 and 0.735, under the conservative threshold of 0.85. Both tests thus confirm that each

construct is empirically distinct. The strongest correlation was found between employee engagement and organisational effectiveness (r = 0.727), which is consistent with theory given the proposed causal relationship between the two.

4.7. Structural model and hypothesis testing

The structural model was estimated to test H1–H5 (Figure 3). Since direct paths from each driver to organisational effectiveness were added to allow mediation testing, the structural model is saturated at the latent level and has the same fit as the measurement model ($\chi^2/df = 1.207$, CFI = 0.977, TLI = 0.973, RMSEA = 0.032, SRMR = 0.042), which indicates a good fit to the data. Table 9 presents the path estimates.

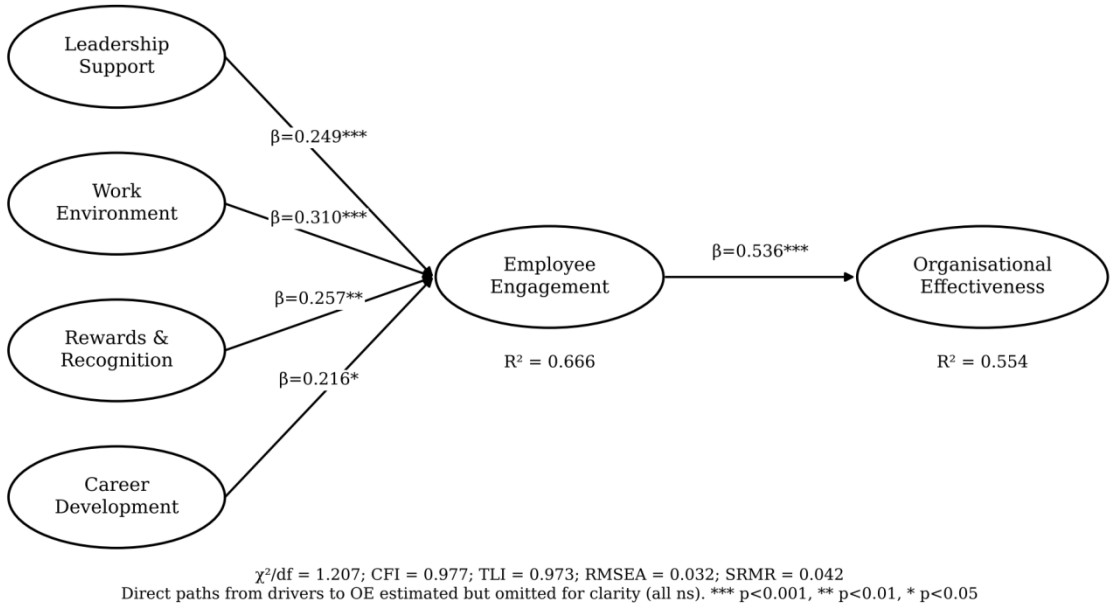

Figure 3. Structural model with standardised path coefficients

Table 9. Structural path estimates and hypothesis testing

Hypothesis	Path	B	β	S.E.	C.R. (z)	p-value	Decision
H1	LS → EE	0.225	0.249	0.068	3.309	< 0.001	Supported
H2	WE → EE	0.329	0.310	0.092	3.566	< 0.001	Supported
H3	RR → EE	0.288	0.257	0.096	2.980	0.003	Supported
H4	CD → EE	0.249	0.216	0.107	2.323	0.020	Supported
H5	EE → OE	0.530	0.536	0.133	3.994	< 0.001	Supported
—	LS → OE	0.140	0.157	0.081	1.727	0.084	Not significant

Hypothesis	Path	B	β	S.E.	C.R. (z)	p-value	Decision
—	WE → OE	0.087	0.083	0.110	0.791	0.429	Not significant
—	RR → OE	-0.017	-0.016	0.113	-0.153	0.879	Not significant
—	CD → OE	0.093	0.081	0.122	0.757	0.449	Not significant

Note: B = unstandardised estimate; β = standardised estimate; C.R. = critical ratio. R^2 (EE) = 0.666; R^2 (OE) = 0.554. Rows marked "—" are direct effects included for mediation testing.

H1 expected leadership support to have a positive influence on employee engagement. The path was positive and significant (β = 0.249, C.R. = 3.309, $p < 0.001$), so H1 is supported. Employees who see their superiors as supportive, fair and receptive to ideas are more engaged.

H2 stated that the work environment has a positive effect on engagement. The path was positive and significant (β = 0.310, C.R. = 3.566, $p < 0.001$), which supports H2. The work environment proved to be the most powerful driver of engagement, underlining the value of sufficient resources, a manageable workload and cooperative colleagues in bank branches.

H3 proposed that rewards and recognition have a positive effect on engagement. The path was significant (β = 0.257, C.R. = 2.980, $p = 0.003$), so H3 is supported. Fair pay, recognition of good performance and transparent incentive systems thus reinforce employee engagement.

H4 stated that career development has a positive influence on engagement. The path was positive and significant (β = 0.216, C.R. = 2.323, $p = 0.020$), which supports H4. Jointly, the four drivers accounted for 66.6% of the variance in employee engagement, showing considerable explanatory power.

H5 expected employee engagement to have a positive effect on organisational effectiveness. This proved to be the strongest relationship in the model (β = 0.536, C.R. = 3.994, $p < 0.001$), so H5 is supported. The model accounted for 55.4% of the variance in organisational effectiveness. By contrast, none of the direct paths from the drivers to organisational effectiveness reached significance at the 5% level (β between -0.016 and 0.157), implying that the drivers affect effectiveness chiefly through engagement.

4.8. Mediation analysis

Table 10. Bootstrapped indirect effects (500 resamples)

Hypothesis	Indirect path	Indirect effect (β)	Boot S.E.	95% CI lower	95% CI upper	Direct effect (p)	Mediation type
H6a	LS → EE → OE	0.134	0.054	0.043	0.256	0.157 (0.084)	Full mediation
H6b	WE → EE → OE	0.166	0.063	0.060	0.297	0.083 (0.429)	Full mediation
H6c	RR → EE → OE	0.138	0.052	0.044	0.255	-0.016 (0.879)	Full mediation

Hypothesis	Indirect path	Indirect effect (β)	Boot S.E.	95% CI lower	95% CI upper	Direct effect (p)	Mediation type
H6d	CD → EE → OE	0.116	0.054	0.022	0.239	0.081 (0.449)	Full mediation

Note: Mediation is supported when the 95% bootstrap confidence interval of the indirect effect excludes zero (Preacher & Hayes, 2008). Full mediation: significant indirect effect with non-significant direct effect (Zhao et al., 2010).

The bootstrapped indirect effects are shown in Table 10. Leadership support had a significant indirect effect on organisational effectiveness via engagement (β = 0.134, 95% CI [0.043, 0.256]), and so did work environment (β = 0.166, 95% CI [0.060, 0.297]), rewards and recognition (β = 0.138, 95% CI [0.044, 0.255]) and career development (β = 0.116, 95% CI [0.022, 0.239]). As no confidence interval contained zero, H6a–H6d are supported. Because the corresponding direct effects were non-significant, employee engagement fully mediates the links between each of the four drivers and organisational effectiveness (Zhao et al., 2010). The largest indirect effect came from the work environment, followed by rewards and recognition, leadership support and career development. The direct effect of leadership support on effectiveness came close to significance (p = 0.084), which suggests that leadership may also exert a small direct influence that deserves further study.

4.9. Comparison between public and private sector banks

H7a was tested by comparing the mean construct scores of the two sectors through independent-samples t-tests (Table 11 and Figure 4). Levene's test showed that the equal-variance assumption held for every construct (p > 0.05).

Table 11. Comparison of construct means between public and private sector banks

Construct	Public M (SD)	Private M (SD)	Mean diff.	t-value	p-value	Cohen's d	Result
Leadership Support	3.582 (0.710)	3.638 (0.806)	0.056	0.512	0.609	0.072	Not significant
Work Environment	3.488 (0.781)	3.605 (0.724)	0.117	1.103	0.271	0.156	Not significant
Rewards and Recognition	3.272 (0.800)	3.452 (0.723)	0.180	1.669	0.097	0.236	Marginal (p < 0.10)
Career Development	3.330 (0.789)	3.640 (0.768)	0.310	2.815	0.005	0.398	Significant
Employee Engagement	3.556 (0.770)	3.702 (0.736)	0.146	1.371	0.172	0.194	Not significant
Organisational Effectiveness	3.710 (0.737)	3.692 (0.748)	-0.018	-0.167	0.868	-0.024	Not significant

Note: n = 100 per sector; df = 198. Mean difference = private − public.

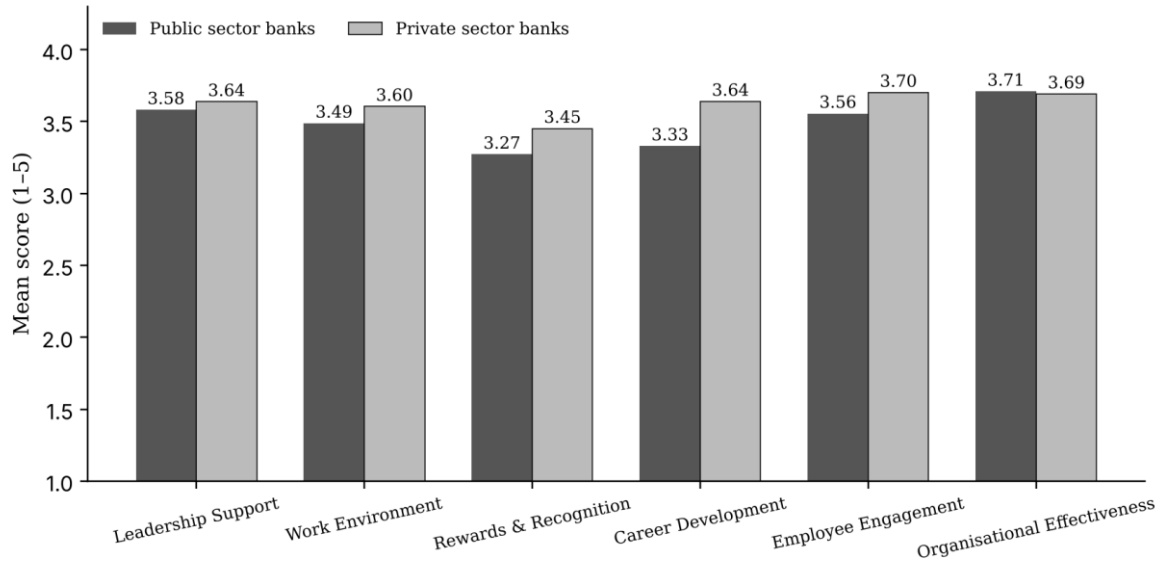

Figure 4. Mean scores of study constructs by bank sector

Employees of private sector banks rated career development significantly higher than those of public sector banks (M = 3.640 versus 3.330; t = 2.815, p = 0.005, d = 0.398), a small-to-medium effect (Cohen, 1988). Private sector employees also gave higher ratings to rewards and recognition, though this difference was only marginally significant (t = 1.669, p = 0.097). The differences in leadership support, work environment, employee engagement and organisational effectiveness were not statistically significant. Hence, although their HR systems differ, employees in the two sectors show broadly comparable levels of engagement and perceive comparable levels of organisational effectiveness. H7a is therefore partially supported.

H7b was tested by estimating the structural model separately for each sector and comparing the unstandardised path coefficients through critical ratio tests. The models for both groups fitted acceptably (public: $\chi^2/df = 1.250$, CFI = 0.944, TLI = 0.936, RMSEA = 0.050; private: $\chi^2/df = 1.266$, CFI = 0.942, TLI = 0.933, RMSEA = 0.052). Table 12 presents the results.

Table 12. Multi-group comparison of structural paths

Path	Public β	p	Private β	p	z-diff.	p (diff.)	Difference
LS → EE	0.380**	0.002	0.116	0.236	-1.908	0.056	Marginal
WE → EE	0.308**	0.008	0.253	0.052	-0.283	0.777	Not significant
RR → EE	0.118	0.303	0.437**	0.003	1.676	0.094	Marginal
CD → EE	0.204	0.122	0.199	0.131	-0.222	0.824	Not significant
EE → OE	0.606***	< 0.001	0.500**	0.009	-0.011	0.991	Not significant

Note: *** p < 0.001; ** p < 0.01; * p < 0.05. R^2 (EE): public = 0.613, private = 0.721; R^2 (OE): public = 0.463, private = 0.731.

Among public sector banks, leadership support (β = 0.380, p = 0.002) and work environment (β = 0.308, p = 0.008) significantly drove engagement, while rewards and recognition and career development did not. Among private sector banks, rewards and recognition was the leading driver (β = 0.437, p = 0.003), work environment was marginally significant (β = 0.253, p = 0.052) and leadership support was non-significant. The sector differences in the leadership support path (z = -1.908, p = 0.056) and the rewards and recognition path (z = 1.676, p = 0.094) were marginally significant at the 10% level, whereas the engagement–effectiveness path was almost identical in both sectors (z = -0.011, p = 0.991). These results suggest that the mechanisms that build engagement tend to vary by sector, while the benefit of engagement for effectiveness holds across both. In view of the marginal significance, H7b is partially supported.

Table 13. Summary of hypothesis testing

Hypothesis	Statement	Result
H1	Leadership support → Employee engagement	Supported
H2	Work environment → Employee engagement	Supported
H3	Rewards and recognition → Employee engagement	Supported
H4	Career development → Employee engagement	Supported
H5	Employee engagement → Organisational effectiveness	Supported
H6a	LS → EE → OE (mediation)	Supported (full mediation)
H6b	WE → EE → OE (mediation)	Supported (full mediation)
H6c	RR → EE → OE (mediation)	Supported (full mediation)
H6d	CD → EE → OE (mediation)	Supported (full mediation)
H7a	Sector difference in construct levels	Partially supported
H7b	Sector difference in structural paths	Partially supported (p < 0.10)

5. Discussion

This study investigated what drives employee engagement and what it leads to in public and private sector banks in Srikakulam district. The findings show that engagement is formed by a set of organisational resources and that it serves as the core mechanism through which these resources are converted into organisational effectiveness.

First, each of the four drivers significantly predicted engagement, and the work environment was the most influential. This agrees with Anitha (2014), who identified the work environment as the strongest determinant of engagement among Indian employees, and with the JD-R view that sufficient job resources set off a motivational process (Bakker & Demerouti, 2007). In district-level bank branches, where staff shortages, heavy footfall from welfare-scheme beneficiaries and technical glitches are frequent, adequate resources, a manageable workload and supportive colleagues seem to form the base on which engagement rests. Rewards and recognition and leadership support ranked next in importance, in keeping with Saks (2006) and with research on the engaging influence of supportive leaders (Tims et al., 2011; Breevaart et al., 2014). Career development also made a

significant contribution, in line with Bhatnagar (2007) and Memon et al. (2016).

Second, engagement had a strong effect on organisational effectiveness and accounted for more than half of its variance. This supports the meta-analytic findings of Harter et al. (2002) and Christian et al. (2011) and extends them to perceived organisational effectiveness in Indian banks. Engaged employees are more inclined to meet targets, provide quality service, work efficiently and accept change, all of which together sustain a bank's effectiveness.

Third, the mediation analysis showed that engagement fully mediates the influence of all four drivers on effectiveness. This result is in line with the JD-R model and with the mediation findings of Saks (2006) and Rich et al. (2010). In practical terms, it means that HR spending on leadership, the work environment, rewards and development does not improve effectiveness by itself; it does so only by first raising employee engagement. Banks that introduce HR practices without checking whether employees actually become more engaged may therefore fail to obtain the expected benefits.

Fourth, the comparison between sectors offers nuanced insights. Private sector employees reported significantly better career development and marginally better rewards, consistent with the performance-linked pay and quicker career progression typical of private banks. Even so, engagement and effectiveness did not differ significantly between the sectors. The multi-group analysis helps explain this: in public sector banks, engagement depends more on leadership support and the work environment, while in private sector banks it depends more on rewards and recognition. In public sector banks, where pay is standardised through industry-level settlements, the support of the branch manager and the quality of the work environment become the main means by which employees feel valued. In private sector banks, where pay and incentives change with performance, rewards become the clearest signal in the social exchange relationship. The engagement–effectiveness link, however, was equally strong in both sectors, showing that engagement is a universal lever of performance irrespective of ownership.

6. Implications

6.1. Theoretical implications

The study contributes to theory in three ways. First, it combines social exchange theory and the JD-R model in one driver–engagement–effectiveness framework and empirically confirms the full mediating role of engagement in the banking context. Second, it carries engagement research into a semi-urban, district-level banking market in India, a setting that is underrepresented in a literature largely based on metropolitan samples. Third, by showing that the relative weight of engagement drivers varies with ownership sector while the engagement–effectiveness link stays stable, it points to institutional context as a boundary condition for the antecedents of engagement, though not for its consequences.

6.2. Practical implications

The findings provide several practical lessons for bank management. First, both sectors should give priority to improving the work environment: sufficient staffing, dependable technology infrastructure, sensible allocation of workload and team-building activities can produce notable gains in engagement. Second, public sector banks should invest in leadership development for branch managers, with emphasis on coaching, constructive feedback, participative decision-making and fair treatment, because leadership is their main lever for engagement. They should also reinforce non-monetary recognition and expand career development and training opportunities to close the gap with private banks. Third, private sector banks should make sure that their reward systems are seen as fair and transparent, since rewards are the main driver of engagement among their employees; heavy target pressure without matching recognition could rapidly undermine engagement. Fourth, banks in both sectors should conduct regular engagement surveys and track engagement metrics together with business metrics, because engagement is the route through which HR practices affect organisational effectiveness. For policy makers and bodies such as the Indian Banks' Association, the results support adding engagement and HR-quality indicators to the performance frameworks of public sector banks.

7. Limitations and directions for future research

The study is subject to some limitations. First, the cross-sectional design restricts causal inference; longitudinal studies would more firmly establish the temporal order of drivers, engagement and effectiveness. Second, the data were self-reported, and although procedural and statistical checks suggested that common method bias was not a serious issue, future research could pair employee surveys with objective branch-level performance data. Third, the sample was confined to 200 employees in a single district, and the subgroup size of 100 per sector limits the statistical power of the multi-group comparison, which may be why some sector differences were only marginally significant; larger samples drawn from several districts would permit full testing of measurement invariance. Fourth, cooperative banks, regional rural banks and small finance banks, which are important in Srikakulam, were not covered. Future studies could also explore further drivers, such as digital transformation, work–life balance and organisational justice, as well as possible moderators such as job stress, employee tenure and gender.

8. Conclusion

The aim of this study was to investigate the relationship between employee engagement and organisational effectiveness in public and private sector banks in Srikakulam district. Based on data from 200 bank employees analysed with structural equation modelling, it showed that leadership support, work environment, rewards and recognition and career development significantly increase employee engagement, which in turn substantially improves organisational effectiveness and fully mediates the effect of the drivers. Although private sector employees reported better career development, levels of engagement and effectiveness were similar in the two sectors, with leadership support mattering more in public sector banks and rewards and recognition mattering more in private sector banks. The study concludes that employee engagement is the vital link between HR practices and organisational effectiveness in banks, and that engagement strategies should be adapted to the institutional context of each sector to achieve the greatest impact.

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