



# Impact of Strategic Leadership Styles and Leadership Support on Employee Engagement in Indian Higher Education

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## ABSTRACT

This study examines the impact of strategic leadership styles and perceived supervisor support on employee engagement among faculty members in Indian higher education institutions. Given the rapid transformation of India's higher education landscape, the research seeks to identify leadership behaviours that enhance faculty motivation, commitment, and engagement. A quantitative, cross-sectional survey design was adopted. Data were collected from 489 teaching professionals across diverse disciplines and institution types. The study analysed the influence of transformational, transactional, and laissez-faire leadership styles, alongside perceived supervisor support, on employee engagement using structural equation modelling (SEM). Results reveal that supervisor support has the strongest positive effect on employee engagement, underscoring the critical role of mentoring, recognition, and involvement. Transactional leadership, characterised by structured goal setting and reward-based motivation, also shows a significant positive impact. Transformational leadership contributes positively but to a lesser extent, while laissez-faire leadership demonstrates no significant influence on engagement. The findings are based on self-reported, cross-sectional data and are specific to Indian higher education institutions. Future studies should adopt longitudinal designs and incorporate multi-source data to validate and extend these results across different educational and cultural contexts. The study highlights the importance of supportive and structured leadership practices in fostering faculty engagement. Higher education institutions should prioritise leadership development initiatives that enhance supervisory support, effective communication, and performance-based reward systems to improve institutional outcomes. This research contributes to the limited literature on leadership and employee engagement within the Indian higher education context. By integrating leadership support alongside established leadership styles, the study offers a comprehensive framework for understanding faculty engagement and provides actionable insights for institutional policy and leadership development.

**Keywords:** Employee Engagement, Academic Leadership, Higher Education, Supervisor Support, Leadership Styles, Faculty Motivation

**JEL Classifications:** M12, J24, M10, J28, I23

## 1. INTRODUCTION

The Indian higher education system, one of the largest in the world, is undergoing a paradigm shift catalysed by structural reforms, policy innovation, global competitiveness, and the infusion of digital technologies (Divya and Prabu Christopher, 2025). Institutions are being called upon to transform from traditional centres of learning into dynamic, outcome-oriented, and innovation-driven organizations (Çivit and Göncü-Köse, 2024). Against this backdrop, leadership in higher education is no longer an administrative role

it is a strategic imperative (Singh et al., 2024). Effective leadership not only determines institutional success but also directly impacts the engagement, motivation, and productivity of academic and administrative staff (Dash et al., 2022). In such a complex and evolving environment, understanding how different leadership styles and the quality of leadership support affect employee engagement becomes a critical area of inquiry (Vesal et al., 2024).

Strategic leadership, which encompasses a broad range of styles and behaviours, has become central to achieving institutional

agility, accountability, and long-term sustainability (Li et al., 2018). Transformational, transactional, and laissez-faire leadership styles, as conceptualized by Astuti et al. (2023), provide a comprehensive framework for examining the strategic behaviour of leaders in academic settings. While transformational leadership is characterized by inspiration, intellectual stimulation, and individualized consideration, transactional leadership emphasizes structure, reward-based performance, and corrective management (Lei et al., 2020). Laissez-faire leadership, on the other hand, reflects a passive, disengaged approach, often resulting in ambiguity and low morale (Lin and Wu, 2022). These leadership styles influence not only organizational culture but also individual-level outcomes, such as employee engagement a construct defined by Vigor (Lopez-Zafra et al., 2022), dedication, and absorption in work.

Employee engagement has been consistently linked to higher productivity, institutional innovation, and positive student outcomes, making it a strategic lever for higher education institutions (Lei et al., 2020). In the Indian context, faculty and administrative engagement is particularly critical due to challenges such as resource constraints, policy volatility, academic bureaucracy, and increasing accountability demands (Nguyen et al., 2023). Despite this importance, engagement levels in Indian academia have often been reported as suboptimal, with stress, burnout, and disillusionment becoming common, especially among mid-career faculty and non-teaching staff. This makes it imperative to examine how leadership practices contribute to mitigate these dynamics (Supriyanto et al., 2022).

While research on leadership styles and employee engagement has gained momentum globally, the Indian higher education landscape remains underexplored in this regard (Li, 2019). Much of the existing literature is either Western-centric or focused on corporate settings, thereby overlooking contextual nuances such as hierarchical governance, cultural collectivism, and institutional rigidities prevalent in Indian academia (Vesal et al., 2024). Moreover, studies tend to focus solely on leadership styles, neglecting the role of support the degree to which leaders demonstrate concern for the personal and professional development of their employees (Singh et al., 2024). Leadership support, encompassing recognition, open communication, inclusion in decision-making, and career development opportunities, may serve as a critical moderator or enhancer of the impact that leadership styles have on engagement (Rabiul, 2024).

Against this backdrop, the present study seeks to investigate the impact of strategic leadership styles transformational, transactional, and laissez-faire and perceived leadership support on employee engagement in Indian higher education institutions (Lopez-Zafra et al., 2022). It draws on both transformational leadership theory and social exchange theory to argue that leadership behaviours and support mechanisms contribute to the psychological conditions necessary for engagement, such as trust, safety, and meaning (Kirkbride, 2006). The study specifically aims to assess: (1) How each leadership style influences employee engagement, and (2) the extent to which leadership support independently contributes to or enhances this relationship.

In operationalizing the constructs, the study develops a robust scale that captures the multifaceted nature of leadership and engagement in the Indian academic context (Divya and Prabu Christopher, 2025). The scale includes items assessing inspirational motivation, intellectual stimulation, ethical conduct, and individualized consideration (for transformational leadership); goal clarity, performance-based rewards, and corrective supervision (for transactional leadership); passivity, avoidance of decision-making, and unavailability (for laissez-faire leadership); and emotional, developmental, and participatory dimensions (for leadership support) (Çivit and Göncü-Köse, 2024). Employee engagement is measured through indicators of energy, dedication, fulfilment, and absorption in academic tasks. These scales are tested and validated using rigorous empirical methods, including exploratory and confirmatory factor analysis, ensuring both reliability and cultural relevance (Vesal et al., 2024).

This research contributes to the growing literature on strategic leadership in education in several important ways (Dash et al., 2022). First, it addresses a significant empirical gap by contextualizing established leadership theories within the Indian higher education system a setting characterized by rapid transformation, institutional diversity, and structural inertia (Mohan et al., 2025). Second, it extends the theoretical understanding of how leadership support functions as a complementary construct to leadership style, offering practical implications for leader development and institutional policy. Third, it operationalizes and validates a context-specific measurement instrument, which may be used by researchers and institutional leaders for future assessments.

From a practical standpoint, the findings of this study will be particularly relevant for Vice Chancellors, Deans, and Heads of Departments who are tasked with driving strategic initiatives, faculty development, and administrative reforms. Understanding which leadership behaviours promote engagement can help institutions better design leadership training programs, succession planning strategies, and organizational policies aimed at talent retention and performance enhancement. Moreover, the emphasis on leadership support highlights the importance of soft power in academic leadership—listening, mentoring, recognizing, and involving faculty and staff in governance processes.

## 2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

### 2.1. Leadership Styles in Higher Education

Leadership styles have long been recognized as a critical factor influencing organizational performance, employee outcomes, and institutional culture (Samsudin et al., 2020). In the context of higher education, leadership assumes a particularly strategic role, balancing academic autonomy with administrative accountability, innovation with tradition, and people-centricity with performance pressures. The Full Range Leadership Theory (FRLT) by Bass and (Kirkbride, 2006) provides a comprehensive framework to examine three primary styles transformational, transactional, and laissez-faire which have been widely studied across sectors but underexplored within Indian academia (Li, 2019).

Transformational leadership, characterized by intellectual stimulation, individualized consideration, idealized influence, and inspirational motivation, fosters high levels of intrinsic motivation, creativity, and psychological empowerment (Vesal et al., 2024). Leaders adopting this style articulate a compelling vision and treat employees as valued individuals, leading to stronger emotional commitment and proactive behaviour (Li et al., 2018). In higher education, transformational leaders may cultivate an environment that values teaching innovation, interdisciplinary collaboration, and faculty autonomy (Padauleng and Sidin, 2020).

As mentioned by Astuti et al. (2023) transactional leadership emphasizes contingent rewards, task clarity, and corrective actions. While often criticized for being rigid, transactional leadership provides structure and predictability, which are crucial in complex institutions where performance measurement and administrative compliance are critical (Gao et al., 2025). In higher education, transactional leaders might monitor faculty performance, ensure syllabus compliance, and reward research output, thereby reinforcing discipline and short-term performance (Karam and Tasmin, 2020).

Laissez-faire leadership, on the other hand, represents the absence or avoidance of leadership responsibilities (Pongpeachan and Rattanaborworn, 2023). Leaders adopting this passive approach are often indecisive, uninvolved, and unresponsive to institutional or employee needs. In academic settings, laissez-faire leadership can result in role ambiguity, lack of direction, and disengagement among faculty and staff (Zhang and Liu, 2022).

Studies across corporate and public sectors have consistently shown that transformational leadership positively influences employee engagement, while laissez-faire leadership has a negative impact (Aboramadan and Dahleez, 2020). Transactional leadership often produces mixed results, suggesting that its effectiveness may depend on context and the presence of complementary leadership behaviours (Afshari et al., 2024). However, these relationships have not been systematically explored in the Indian higher education context, which is characterized by a blend of bureaucratic governance, resource variability, and institutional heterogeneity (Setyaningrum and Muafi, 2023).

## 2.2. Leadership Support

Beyond formal leadership styles, the perception of leadership support encompassing emotional, developmental, and participatory behaviours is increasingly recognized as a vital driver of employee outcomes (Carlos Osorio Mass et al., 2025). Drawing on Social Exchange Theory, when employees perceive their leaders as supportive offering career development, recognizing efforts, involving them in decision-making they are more likely to reciprocate with higher engagement and commitment (Naqshbandi et al., 2019).

In academia, leadership support can take the form of mentorship, academic freedom, recognition of teaching/research efforts, and genuine consideration of faculty input in institutional decision-making. Research has shown that such support fosters psychological safety, enhances trust, and reduces stress creating

the conditions necessary for deep work engagement (Bakker and Demerouti, 2008). Particularly in hierarchical or resource-constrained institutions like many in India, the presence or absence of leadership support may amplify or mitigate the effects of formal leadership styles.

## 2.3. Employee Engagement in Higher Education

Employee engagement, defined by Vigor, dedication, and absorption in work, has become a critical construct in organizational psychology and strategic HRM (Qandeel and Kuráth, 2025). In higher education, engagement translates into enthusiasm for teaching, research productivity, innovation in pedagogy, and proactive institutional citizenship. Engaged faculty are more likely to initiate collaborative projects, mentor students effectively, and align with the strategic vision of their institutions (Chen et al., 2022).

While research in business sectors confirms the positive influence of transformational leadership on engagement, and the negative impact of laissez-faire leadership, higher education presents unique demands—autonomy, academic identity, and value-driven work—that may shape how leadership is perceived and received (McIntyre et al., 2024). Furthermore, the role of leadership support in fostering engagement within Indian academia remains largely untested in empirical literature.

## 3. RESEARCH METHODOLOGY

This study adopts a quantitative, cross-sectional survey design to explore the impact of strategic leadership styles and leadership support on employee engagement within Indian higher education institutions. Rooted in a positivist paradigm, the research aims to objectively measure and test relationships among the latent constructs of transformational, transactional, and laissez-faire leadership, perceived leadership support, and employee engagement.

The target population comprises academic and administrative staff employed in recognized universities and autonomous colleges situated in Tier-1 Indian cities, specifically Delhi, Mumbai, Bengaluru, Hyderabad, Chennai, and Pune. These cities were strategically selected due to their concentration of premier institutions, greater exposure to performance-driven leadership models, and diverse representations across public, private, and deemed universities. The study employed a purposive sampling method to ensure that participants had direct experience with leadership practices relevant to the research constructs. Eligibility criteria required participants to be full-time employees with a minimum of 1 year of tenure in their current institution and to report directly to academic leaders such as Heads of Departments, Deans, or Institutional Directors. Institutions accredited by the University Grants Commission (UGC), All India Council for Technical Education (AICTE), or National Assessment and Accreditation Council (NAAC) were considered for inclusion.

To determine the minimum sample size, Cochran's formula for large populations was employed using a 95% confidence level, 5% margin of error, and a conservative estimate of



maximum variability ( $P = 0.5$ ). This yielded a base sample size of 384 participants. To account for non-response and incomplete submissions, the target sample was increased to 500. A total of 489 complete and valid responses were obtained after data cleaning, which is above the recommended minimum for robust statistical analysis using techniques such as multiple regression and structural equation modelling.

Data collection took place over a 3-month period using an online survey platform. Permission was obtained from institutional authorities where necessary, and distribution of the survey was facilitated through departmental emails, academic networks, and peer referrals. Participants received a brief description of the study's purpose, assurance of anonymity, and consent information. Participation was entirely voluntary, and no financial or academic incentives were offered to mitigate response bias. A pilot test involving 30 respondents was conducted to assess the clarity and reliability of the instrument, leading to minor revisions in language and sequencing for improved comprehension.

Table 1 outlines the development of measurement scales used in the study, detailing the constructs and associated items that form the basis of the analysis. Each construct—such as transformational leadership, transactional leadership, laissez-faire leadership, supervisor support, and employee engagement was operationalized using multiple items, ensuring comprehensive measurement of the underlying concepts.

A 7-point Likert scale was used for all attitudinal items, ranging from 1 (Strongly Disagree) to 7 (Strongly Agree) (Lopez-Zafra et al., 2022). This scale choice allows for greater differentiation of responses, reduces central tendency bias, and provides a higher level of granularity for statistical interpretation. Transformational leadership was measured using five items reflecting inspirational motivation, individualized consideration, intellectual stimulation, ethical role modelling, and motivation beyond self-interest. Transactional leadership was also assessed using five items that focused on contingent rewards, task clarity, performance monitoring, and corrective supervision. Laissez-faire leadership included five items capturing passive behaviours such as indecisiveness, unavailability, and lack of involvement. Leadership support was assessed using five items measuring emotional, developmental, and participatory support behaviours. Employee engagement was captured through five items reflecting energy, pride, focus, and deep involvement in work.

All constructs were subjected to reliability and validity testing through exploratory and confirmatory factor analysis, discussed in detail in the results section. The Cronbach's alpha values for each scale exceeded the generally accepted threshold of 0.80, indicating high internal consistency. Furthermore, factor loadings and model fit indices confirmed the structural soundness of the measurement model.

Ethical considerations were observed throughout the research process. Institutional permissions were obtained where required, and all participants were informed of their rights to anonymity and voluntary participation. No personally identifiable information was

collected, and participants could withdraw at any point without consequence. The study followed established ethical guidelines for social science research and ensured data confidentiality and secure storage.

## 4. ANALYSIS

The demographic profile of the respondents (Table 2) indicates a diverse and academically accomplished group of 489 individuals. The majority were male (55.6%), with females representing 44.4% of the sample. Most respondents fell within the 41-50 age range (33.7%), followed by those aged 30-40 years (26.4%) and above 60 years (16.4%). A substantial portion of the participants were unmarried (77.3%). In terms of educational attainment, a significant number held advanced degrees, with 35.0% having completed post-doctoral studies and 33.5% holding doctorates. Associate professors formed the largest designation group (34.6%), followed by assistant professors (30.7%) and professors (24.5%). Most respondents were affiliated with private institutions (36.2%), while deemed universities accounted for 26.4%. Regarding work experience in higher education, 35.8% had 5-10 years of experience, and 38.0% had been in their current institution for 6-10 years. Salary-wise, 33.3% earned between ₹50,001 and ₹70,000/month, and 23.7% earned more than ₹90,000. The humanities discipline had the highest representation (35.6%), followed by engineering (26.0%) and science (23.1%). Notably, 37.6% of respondents had attended 3-5 leadership development trainings, and a significant majority (87.9%) were working in offline mode.

Table 3 provides a comprehensive evaluation of the measurement model, focusing on item loadings, composite reliability (CR), average variance extracted (AVE), Cronbach's alpha, and variance inflation factor (VIF) for each construct. The constructs measured include Transformational Leadership, Transactional Leadership, Laissez-faire Leadership, Supervisor (Leader) Support, and Employee Engagement.

All standardized factor loadings exceed the recommended threshold of 0.70, demonstrating good item reliability. Specifically, items for Transformational Leadership (e.g., TL1-TL5) show loadings ranging from 0.771 to 0.837, indicating strong associations with the underlying latent construct. Similar strong loadings were observed across other constructs, including Transactional Leadership (0.747-0.775), Laissez-faire Leadership (0.703-0.793), Supervisor Support (0.53-0.895), and Employee Engagement (0.747-0.863), further validating the measurement model (Table 3).

The composite reliability (CR) values for all constructs are above 0.80, confirming the internal consistency of the constructs (Fornell and Larcker, 1981). For instance, Transformational Leadership has a CR of 0.907, Employee Engagement 0.915, and Supervisor Support 0.924—all comfortably above the 0.70 benchmark. Cronbach's alpha values also exceed 0.70 for all constructs, supporting the reliability of the items.

Furthermore, the average variance extracted (AVE) values for each construct are above the recommended minimum of 0.50, which

**Table 1: Scale development**

Construct	Operational definition	Item code	Statements	Source
Transformational Leadership	It refers to a leadership style in which leaders inspire, motivate, and intellectually stimulate their employees, treating them as individuals and encouraging them to go beyond self-interest for the greater organizational good. In the context of Indian higher education, transformational leaders envision a compelling academic future, foster creativity among faculty and staff, demonstrate ethical conduct, and aim to elevate institutional standards. It is operationalized through items assessing inspirational motivation, individualized consideration, intellectual stimulation, idealized influence, and motivation	TL1	My supervisor inspires me with a compelling vision of the future.	Panda and Swamy, 2025
		TL2	My supervisor treats me as an individual rather than just a group member.	Kossek et al., 2023
		TL3	My supervisor encourages me to think creatively.	Li, 2019
		TL4	My supervisor is a role model for ethical behaviour.	Zhou and Zhang, 2013
		TL5	My supervisor motivates me to exceed expectations.	Veerunjaysingh, 2023
Transactional Leadership	It is characterized by a focus on structured tasks, reward-based performance, and corrective actions. In Indian higher education institutions, transactional leaders emphasize goal setting, clear roles, monitoring of faculty output, and performance-based recognition. This style relies on established processes and discipline to achieve academic and administrative efficiency. It is operationally defined by behaviours such as clarifying responsibilities, offering contingent rewards, and actively managing employee performance through corrective feedback and close supervision.	TC1	My supervisor rewards me when I meet performance goals.	Ata et al., 2025
		TC2	My supervisor defines tasks and responsibilities clearly.	Lin and Wu, 2022
		TC3	My supervisor takes corrective actions when I make mistakes.	Samsudin et al., 2020
		TC4	My supervisor closely monitors my work.	Hudecek et al., 2024
		TC5	My supervisor clearly communicates performance expectations.	Hudecek et al., 2024
Laissez-faire Leadership	Laissez-faire leadership is an absence of active leadership, where leaders avoid decision-making, delay responses to critical issues, and show minimal involvement in institutional or employee matters. In the academic context, such leadership can lead to ambiguity, a lack of direction, and reduced faculty morale and engagement. It is measured by items indicating leader passivity, disengagement, indecisiveness, avoidance of accountability, and physical or psychological unavailability.	LL1	My supervisor avoids making decisions.	Harandi et al., 2024
		LL2	My supervisor delays responses to urgent issues.	Das and Pattanayak, 2023
		LL3	My supervisor is uninvolved in work matters.	Rabiul et al., 2023
		LL4	My supervisor avoids accountability.	Rabiul et al., 2023
		LL5	My supervisor is often unavailable when needed.	Rabiul et al., 2023
Supervisor (Leader) Support	It refers to the extent to which leaders show concern for the well-being, growth, and contributions of their subordinates. In Indian higher education, it includes emotional, developmental, and participatory support provided by Academic Heads or Deans. Operationally, it is measured by faculty perceptions of their supervisors encouraging open communication, offering career support, recognizing achievements, listening to concerns, and involving them in decision-making. High levels of supervisor support are expected to strengthen the relationship between leadership style and employee engagement.	SS1	My supervisor supports my career development.	Al-Zu'bi and Alsheikh, 2024
		SS2	My supervisor listens to my concerns.	Garg et al., 2024
		SS3	My supervisor encourages open communication.	Hameduddin and Engbers, 2022
		SS4	My supervisor recognizes my performance.	Wandary et al., 2025
		SS5	My supervisor involves me in decisions.	Viana and Machado, 2025
Employee Engagement	Employee engagement is a psychological state characterized by vigour, dedication, and absorption in work. Among faculty and administrative staff in higher education, it reflects enthusiasm for teaching, pride in institutional affiliation, energy at work, and deep involvement in academic and administrative responsibilities. It is operationally defined by items assessing emotional investment, sense of fulfilment, focus, energy levels, and immersion in work activities. Engaged employees are more likely to contribute proactively to institutional goals and innovation.	EE1	I feel enthusiastic about my work.	Nguyen et al., 2023
		EE2	I feel deeply engaged in my work.	Chaman et al., 2021
		EE3	I start my workday feeling energized.	Cummings et al., 2018
		EE4	I am proud of what I do.	Gaur et al., 2024
		EE5	I lose track of time when I work due to deep involvement.	Chaiyasat et al., 2025

demonstrates adequate convergent validity. For example, the AVE for Supervisor Support is 0.71 and for Employee Engagement is 0.683, suggesting that a substantial amount of variance is captured by the construct rather than by measurement error.

Lastly, multicollinearity diagnostics using the variance inflation factor (VIF) reveal all values to be well below the conservative

threshold of 5, with most VIFs falling between 1.3 and 3.0. This indicates that multicollinearity is not a concern in this measurement model (Table 3).

Table 4 presents the Heterotrait-Monotrait Ratio (HTMT) of correlations, a modern and robust criterion used to assess discriminant validity in structural equation modeling. Discriminant

**Table 2: Demographic profile of the respondents**

Demographic variables	Categories	Frequency	Percentage
Gender	Male	272	55.6
	Female	217	44.4
Age	<30 years	40	8.2
	30-40	129	26.4
	41-50	165	33.7
	51-60	75	15.3
	Above 60	80	16.4
Marital Status	Married	111	22.7
	Unmarried	378	77.3
Highest Educational Qualification	Postgraduate	28	5.7
	M.Phil.	126	25.8
	Doctorate	164	33.5
	Post-Doctorate	171	35.0
Designation	Professor	120	24.5
	Associate Professor	169	34.6
	Assistant Professor	150	30.7
	Lecturer	50	10.2
Type of Institution	Public	119	24.3
	Private	177	36.2
	Deemed University	129	26.4
	Government-aided	64	13.1
Years of Experience in Higher Education	<5 years	111	22.7
	5-10 years	175	35.8
	11-15 years	143	29.2
	More than 15 years	60	12.3
Number of Years in Current Institution	<3 years	101	20.7
	3-5 years	139	28.4
	6-10 years	186	38.0
	More than 10 years	63	12.9
Monthly Salary (in ₹)	<30,000	4	0.8
	30,001-50,000	104	21.3
	50,001-70,000	163	33.3
	70,001-90,000	102	20.9
	More than 90,000	116	23.7
Department/ Discipline	Management	75	15.3
	Engineering	127	26.0
	Humanities	174	35.6
	Science	113	23.1
Number of Leadership Development Trainings Attended	None	89	18.2
	1-2	108	22.1
Work Mode	3-5	184	37.6
	More than 5	108	22.1
	Offline	430	87.9
	Online	59	12.1

validity ensures that each construct in the model is truly distinct from the others, both conceptually and statistically.

According to Henseler, Ringle, and Sarstedt (2015), HTMT values should be below 0.90 (more conservatively, below 0.85) to confirm discriminant validity between two constructs. In Table 4, all HTMT values fall below 0.85, indicating that the constructs are well differentiated from one another. For instance, the HTMT values between Employee Engagement (EE) and other constructs are: EE-Laissez-faire Leadership (LL) = 0.44, EE-Supervisor Support (SS) = 0.52, EE-Transactional Leadership (TC) = 0.434, and EE-Transformational Leadership (TL) = 0.463. All of these are safely within the acceptable range.

Additionally, the highest HTMT value observed is between LL and SS (0.73), which, although relatively high, remains below the

threshold and does not suggest any multicollinearity or overlap between these two constructs. Similarly, other inter-construct HTMT values, such as TL-TC (0.579) and TL-SS (0.665), also support the model's discriminant validity (Table 4).

Thus, based on the HTMT results, it can be concluded that discriminant validity is adequately established, and each latent construct in the model measures a distinct theoretical concept.

Table 5 assesses discriminant validity using the Fornell-Larcker criterion, which requires that the square root of the average variance extracted (AVE) for each construct, represented by the diagonal elements, should be greater than the correlations between that construct and any other. In this analysis, all diagonal values exceed their corresponding inter-construct correlations. For example, the square root of AVE for employee engagement is 0.827, which is greater than its correlations with laissez-faire leadership (0.36), supervisor support (0.472), transactional leadership (0.366), and transformational leadership (0.409). Similarly, each construct in the table satisfies this criterion, thereby confirming that discriminant validity is established.

Figure 1 illustrates the Structural Equation Modeling (SEM) framework used in the study, representing the hypothesized relationships among leadership styles, supervisor support, and employee engagement. The model includes four independent latent constructs: transformational leadership, transactional leadership, laissez-faire leadership, and supervisor (leader) support, each linked to the dependent variable, employee engagement. The directional paths between constructs indicate the direct effects hypothesized and tested in the structural model. The SEM diagram visually supports the hypothesis testing results presented in Table 6, showing that supervisor support, transactional leadership, and transformational leadership have positive and statistically significant effects on employee engagement, while the path from laissez-faire leadership is not significant. The model structure aligns with the theoretical foundations of leadership behaviour and its influence on employee outcomes, and provides a clear visualization of the validated relationships supported by the statistical results.

Table 6 presents the structural model outcomes, including path coefficients, standard errors, t-statistics, and P-values, derived from the partial least squares structural equation modeling (PLS-SEM) analysis. The objective was to evaluate the hypothesized relationships between various leadership styles, supervisor support, and employee engagement.

The analysis reveals that supervisor support exhibits the most substantial positive influence on employee engagement ( $\beta = 0.362$ ,  $t = 5.915$ ,  $P < 0.001$ ), confirming that the presence of supportive supervisory behavior significantly enhances employees' psychological investment and active participation in organizational roles. This finding is consistent with prior research suggesting that leader support contributes positively to motivation and affective commitment in academic settings.

Transactional leadership also demonstrates a statistically significant positive relationship with employee engagement ( $\beta = 0.217$ ,  $t = 3.820$ ,  $P < 0.001$ ), indicating that contingent

**Table 3: Construct loadings, composite reliability, AVE, Cronbach alpha and VIF**

Construct	Item code	Construct loadings	Composite reliability	AVE	Cronbach alpha	VIF
Transformational Leadership	TL1	0.821	0.907	0.661	0.872	1.941
	TL2	0.815				2.104
	TL3	0.837				2.251
	TL4	0.819				2.124
	TL5	0.771				1.738
Transactional Leadership	TC1	0.763	0.835	0.51	0.748	1.021
	TC2	0.775				1.867
	TC3	0.747				1.791
	TC4	0.77				1.765
	TC5	0.763				1.71
Laissez-faire Leadership	LL1	0.751	0.803	0.552	0.701	1.64
	LL2	0.793				1.53
	LL3	0.703				1.321
	LL4	0.755				2.262
	LL5	0.741				2.287
Supervisor (Leader) Support	SS1	0.53	0.924	0.71	0.896	1.453
	SS2	0.895				3.066
	SS3	0.882				2.867
	SS4	0.874				2.753
	SS5	0.884				2.929
Employee Engagement	EE1	0.844	0.915	0.683	0.883	2.322
	EE2	0.854				2.484
	EE3	0.82				2.059
	EE4	0.863				2.56
	EE5	0.747				1.59

**Table 4: HTMT criterion**

	EE	LL	SS	TC	TL
EE					
LL	0.44				
SS	0.52	0.73			
TC	0.434	0.685	0.441		
TL	0.463	0.663	0.665	0.579	

**Table 5: Fornell-Larker criterion**

	EE	LL	SS	TC	TL
EE	0.827				
LL	0.36	0.672			
SS	0.472	0.601	0.842		
TC	0.366	0.689	0.376	0.714	
TL	0.409	0.549	0.575	0.509	0.813

rewards and clear structures within the leadership process are positively associated with engagement levels. Transformational leadership similarly yields a significant effect ( $\beta = 0.135$ ,  $t = 2.572$ ,  $P = 0.010$ ), suggesting that inspirational motivation, intellectual stimulation, and individualized consideration contribute to enhanced engagement, albeit to a lesser extent than supervisor support and transactional leadership.

Conversely, the path coefficient from laissez-faire leadership to employee engagement is negative and statistically non-significant ( $\beta = -0.081$ ,  $t = 1.238$ ,  $P = 0.216$ ). This implies that a passive or avoidant leadership style does not significantly impact employee engagement, and may even detract from it, although not to a statistically meaningful degree in this sample.

Overall, the results support three out of the four hypothesized relationships, thereby underscoring the critical role of active

and constructive leadership behaviours—particularly supervisor support—in fostering employee engagement within higher education institutions.

## 5. DISCUSSION OF FINDINGS

The results of the structural equation modelling provide valuable insights into the relationships between leadership styles, supervisor support, and employee engagement within the context of higher education institutions. Among the leadership variables examined, supervisor (leader) support emerged as the most significant predictor of employee engagement. This finding underscores the importance of supportive leadership behaviours, such as mentorship, availability, and recognition, which align with existing literature emphasizing the role of social support in fostering motivation and psychological well-being among academic staff (Gaur et al., 2024).

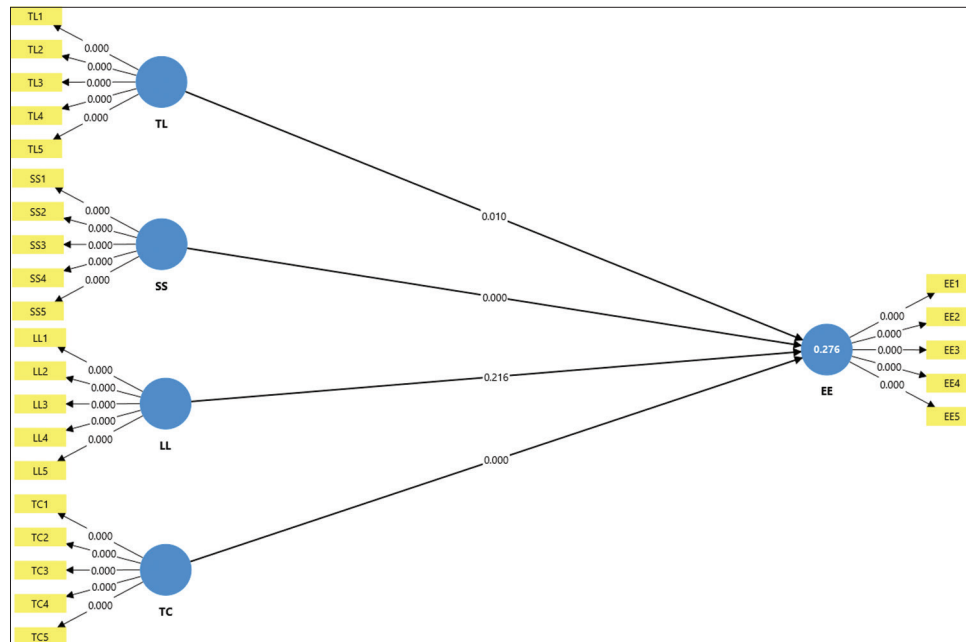
Transactional leadership also demonstrated a statistically significant positive influence on employee engagement, suggesting that structured and reward-based leadership mechanisms are effective in driving performance and involvement in professional settings. This result is consistent with prior research indicating that transactional leadership enhances clarity and goal orientation, which in turn cultivates employee engagement (Chaiyasat et al., 2025).

Transformational leadership, while statistically significant, had a relatively smaller effect on employee engagement. This may reflect contextual factors specific to academic institutions, where autonomy and intrinsic motivation are more valued than vision-driven leadership. Nonetheless, the positive relationship reinforces the idea that transformational behaviours—such as intellectual



**Table 6: Hypothesis testing result**

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P-values
LL -> EE	-0.081	-0.073	0.066	1.238	0.216
SS -> EE	0.362	0.361	0.061	5.915	0
TC -> EE	0.217	0.215	0.057	3.82	0
TL -> EE	0.135	0.134	0.053	2.572	0.01

**Figure 1: SEM Model**

stimulation and individualized consideration—do contribute to engagement, albeit with less impact than transactional structures or direct supervisory support.

In contrast, laissez-faire leadership exhibited a negative but non-significant relationship with employee engagement. This outcome suggests that passive or absent leadership styles fail to provide the structure or support necessary for fostering engagement and may even hinder it. This aligns with the broader leadership literature, which consistently identifies laissez-faire leadership as the least effective style across contexts (Fauzi et al., 2025).

Overall, these findings support the theoretical framework that active leadership engagement—both transactional and transformational—combined with perceived supervisor support, plays a crucial role in enhancing employee engagement within the academic sector.

## 6. CONCLUSION

This study examined the impact of various leadership styles and supervisor support on employee engagement among faculty members in higher education institutions. The results indicate that supervisor support, transactional leadership, and transformational leadership all have significant positive effects on employee engagement, while laissez-faire leadership does not. These findings highlight the importance of proactive, supportive, and structured leadership behaviours in fostering engagement

among academic professionals. The outcomes contribute to both theoretical understanding and practical leadership development in educational contexts, emphasizing the critical role of leader behaviour in shaping institutional effectiveness and employee well-being.

### 6.1. Implications of the Study

The findings of this study hold several important implications for institutional policy, leadership training, and human resource management within higher education. First, institutions should prioritize the development of supportive supervisory relationships, as these have the most substantial impact on faculty engagement. Investing in leadership development programs that train academic leaders in effective communication, recognition, and mentorship practices could significantly enhance engagement levels.

Second, the effectiveness of transactional leadership highlights the value of clear expectations, performance-based feedback, and structured rewards. Academic administrators should be encouraged to implement transparent goal setting and reward systems that align with institutional objectives and individual performance.

Third, while transformational leadership was found to be significant, its relatively modest effect suggests the need to tailor such leadership approaches to the academic context. Training programs should focus on adapting transformational behaviours in ways that respect faculty autonomy and academic freedom.



Lastly, the non-significant impact of laissez-faire leadership further reinforces the necessity for institutions to discourage passive leadership practices and instead promote accountability, presence, and active management among academic leaders.

## 6.2. Limitations of the Study

Despite its contributions, this study is subject to several limitations that should be acknowledged. First, the data were collected using self-reported questionnaires, which may introduce response bias, particularly in perceptions of leadership and engagement. Second, the cross-sectional nature of the study limits the ability to infer causal relationships. Longitudinal studies would be necessary to assess changes in engagement over time in response to leadership interventions.

Third, the sample was drawn exclusively from higher education institutions, which may limit the generalizability of the findings to other sectors or industries. Moreover, while the sample size was adequate, it was not equally distributed across all demographic categories, potentially influencing the outcomes in subgroup analyses. Finally, cultural and institutional factors unique to the region or academic context may influence leadership perceptions, and these contextual variables were not explicitly controlled for in the model.

Future research should aim to address these limitations by employing longitudinal designs, incorporating multi-source data, and extending the model to diverse organizational settings and cultural contexts.

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