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Research Article

Linking Organisational Culture and Faculty Engagement: Evidence from Punjab's Higher Education Sector Using SEM Approach

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Abstract

In the contemporary higher education landscape, organisational culture has emerged as a critical determinant of employee engagement, particularly in knowledge-intensive environments such as universities and colleges. This study investigates the impact of organisational culture on employee engagement among faculty members in higher education institutions in Punjab, India. Grounded in the Job Demands–Resources (JD-R) model, the research examines how key cultural dimensions—including values and goal clarity, team orientation, and leadership influence engagement both directly and indirectly through mediating variables such as communication, organisational support, and training and development.

The study adopts a quantitative research design and is based on primary data collected from 458 faculty members across public, aided, and private institutions. Advanced statistical techniques, including Confirmatory Factor Analysis (CFA), Cronbach's Alpha, Multiple Regression Analysis, and Structural Equation Modelling (SEM), were employed to validate constructs and test hypothesised relationships. The findings reveal that values and goal clarity, team orientation, and leadership are significant predictors of employee engagement, while organisational resources act as important mediating mechanisms. Additionally, demographic analysis indicates variations in engagement across institutional type, gender, and experience levels.

The study contributes to the existing literature by empirically validating the JD-R model in the context of Indian higher education and offers practical insights for policymakers and institutional leaders to foster engagement-driven organisational cultures. The findings underscore the need for strategic alignment, collaborative work environments, and transformational leadership to enhance faculty engagement and institutional effectiveness.

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1. INTRODUCTION

In the contemporary knowledge-driven economy, higher education institutions (HEIs) are increasingly recognised as pivotal engines of socio-economic development and intellectual advancement. The effectiveness of these institutions largely depends on the performance, motivation, and commitment of their faculty members, who constitute the core intellectual capital. In this context, employee engagement has emerged as a critical factor influencing teaching quality, research productivity, and overall institutional effectiveness. Engaged faculty members demonstrate higher levels of enthusiasm, dedication, and involvement in their professional roles, thereby contributing significantly to academic excellence and student outcomes.

Organisational culture plays a fundamental role in shaping employee attitudes, behaviours, and performance within institutions. It encompasses shared values, beliefs, norms, and practices that guide interactions and decision-making processes. In higher education, organisational culture is reflected through leadership styles, communication systems, teamwork, and institutional support mechanisms. A strong and cohesive culture can foster collaboration, innovation, and commitment among faculty, whereas a weak or misaligned culture may lead to dissatisfaction, reduced productivity, and higher attrition rates.

The relationship between organisational culture and employee engagement has gained considerable attention in organisational behaviour research. The Job Demands–Resources (JD-R) model provides a robust theoretical framework to understand this relationship by positing that job resources such as leadership support, team orientation, communication clarity, and professional development opportunities play a crucial role in enhancing employee engagement. In academic environments, these resources are embedded within the institutional culture and significantly influence how faculty perceive and perform their roles.

Despite the growing body of literature, empirical research examining the linkage between organisational culture and employee engagement in the context of Indian higher education remains limited, particularly in regional settings such as Punjab. The higher education sector in Punjab is characterised by institutional diversity, including public, aided, and private universities, each operating under distinct administrative structures and cultural environments. This diversity necessitates a context-specific investigation to understand how cultural dimensions influence faculty engagement across different institutional settings.

Against this backdrop, the present study aims to examine the impact of organisational culture on employee engagement among faculty members in Punjab's higher education institutions. By employing a quantitative research design and advanced analytical techniques such as Confirmatory Factor Analysis (CFA), Multiple Regression Analysis, and Structural Equation Modelling (SEM), the study seeks to identify key cultural drivers of engagement and explore the mediating role of organisational resources. The findings are expected to contribute to both theoretical understanding and practical policy formulation, enabling institutions to foster supportive and engagement-oriented academic environments.

2. LITERATURE REVIEW

Organisational culture continues to be a central construct in understanding employee behaviour and institutional effectiveness, particularly in knowledge-driven sectors such as higher education. According to Edgar H. Schein (2010), organisational culture consists of shared assumptions, values, and beliefs that shape organisational practices and employee interactions. Recent research further strengthens this perspective by emphasising that organisational culture significantly influences not only performance but also resilience and adaptability. A 2025 study published in *Springer Nature* found that organisational culture plays a foundational role in enhancing employee performance and organisational resilience, particularly when aligned with structured work systems.

Employee engagement, defined as a positive psychological state characterised by vigour, dedication, and absorption, remains a key determinant of organisational success. Wilmar Schaufeli et al. (2002) conceptualised engagement as a persistent affective-cognitive state, which has been widely validated in recent studies. Contemporary research in higher education highlights that engaged faculty members demonstrate higher levels of creativity, innovation, and institutional commitment. A recent multinational study (2026) confirms that faculty engagement is strongly associated with teaching quality, innovation, and continuous learning, particularly when supported by favourable organisational climates and leadership practices.

The relationship between organisational culture and employee engagement has been extensively explained through the Job Demands–Resources (JD-R) model proposed by Bakker and Demerouti (2007). This model posits that job resources such as leadership support, communication, and training enhance engagement while reducing burnout. Recent empirical evidence supports this framework. For instance, a 2024 study on higher education institutions demonstrated that organisational culture significantly influences employee engagement, with job characteristics acting as a mediating factor. Similarly, a 2025 study highlights that leadership and organisational commitment, embedded within culture, enhance engagement and ultimately improve employee performance.

In the context of higher education, organisational culture has been found to influence multiple faculty-related outcomes, including job satisfaction, motivation, and retention. A 2025 study published in *Frontiers in Education* revealed that collaborative and innovative organisational cultures significantly improve academic staff satisfaction and institutional effectiveness. Furthermore, a recent systematic review (2025) indicates that organisational culture in higher education institutions is closely linked with leadership effectiveness, employee engagement, and institutional performance, reinforcing its strategic importance in academic settings.

Recent literature also emphasises the mediating role of organisational resources and support systems in strengthening the culture–engagement relationship. Studies show that communication, training, and organisational support act as critical mechanisms through which culture translates into engagement outcomes. A 2025 study in *MDPI* found that perceived organisational support and work engagement significantly drive innovative work behaviour among university

faculty. Additionally, global workplace reports indicate that employee engagement levels are closely linked to organisational productivity and performance, highlighting the practical importance of fostering engagement-oriented cultures.

Research Gap

Despite the growing body of recent research, several critical gaps remain:

1. **Limited Regional Evidence (Punjab Context):** While recent studies (2024–2026) provide global insights, there is still a lack of region-specific empirical research focusing on Punjab's higher education sector.
2. **Need for Integrated SEM-Based Models:** Although newer studies have used mediation models, very few integrate organisational culture, mediating variables, and engagement simultaneously using SEM, particularly in Indian academia.
3. **Underexplored Faculty-Centric Variables:** Recent studies focus broadly on employees, but faculty-specific engagement drivers (e.g., academic autonomy, research climate) remain insufficiently explored.
4. **Limited Comparative Demographic Analysis:** Contemporary research rarely examines how institutional type, gender, and experience jointly influence engagement, which is critical in diverse academic environments.
5. **Dynamic Changes in Academic Work Culture:** Emerging trends such as digital transformation, hybrid work culture, and evolving leadership roles are reshaping engagement, but empirical validation in higher education is still limited.

3. RESEARCH METHODOLOGY

1. Need for the Study

In the rapidly transforming landscape of higher education, institutions are increasingly required to enhance academic quality, research output, and global competitiveness. Faculty members, being the primary intellectual resource, play a pivotal role in achieving these objectives. However, their effectiveness largely depends on their level of engagement, which is influenced by the organisational environment in which they operate.

While organisational culture has been widely acknowledged as a determinant of employee behaviour and performance, its specific influence on faculty engagement in higher education institutions, particularly in the regional context of Punjab, remains underexplored. The diversity of institutional structures, including public, aided, and private universities, further necessitates a focused investigation into how cultural dimensions shape engagement outcomes.

Moreover, with the increasing emphasis on accountability, performance metrics, and global standards, understanding the mechanisms through which organisational culture fosters or hinders employee engagement has become crucial. This study is therefore needed to provide empirical evidence on the relationship between organisational culture and employee engagement, and to offer actionable insights for institutional leaders and policymakers.

2. OBJECTIVES OF THE STUDY

The present study is guided by the following objectives:

1. To examine the impact of organisational culture on employee engagement among faculty members in higher education institutions.
2. To identify the key dimensions of organisational culture that significantly influence employee engagement.
3. To analyse the mediating role of organisational resources such as communication, leadership, training and development, and organisational support.
4. To assess the variation in employee engagement across different demographic variables such as institutional type, gender, and academic experience.
5. To provide policy recommendations for enhancing faculty engagement through organisational culture development.

3. Scope of the Study

The scope of the study is confined to higher education institutions located in Punjab, India. It includes faculty members working in public universities, government-aided colleges, and private universities. The study focuses specifically on examining the relationship between organisational culture and employee engagement, along with the mediating influence of organisational resources.

The research primarily considers key dimensions of organisational culture such as values and goal clarity, team orientation, leadership, autonomy, and innovation. Employee engagement is analysed through its core components—vigour, dedication, and absorption. Additionally, the study incorporates mediating variables, including communication, organisational support, and training and development.

The findings of the study are intended to apply to similar higher education contexts, although generalisation beyond the region should be undertaken with caution.

4. Research Design

The study adopts a quantitative and descriptive research design to systematically examine the relationship between organisational culture and employee engagement.

4.1 Nature of Study

The research is empirical in nature, based on primary data collected from faculty members. It follows a cross-sectional design, capturing responses at a single point in time.

4.2 Sampling Design

A structured sampling approach was adopted to ensure representation across different types of institutions. Faculty members from public, aided, and private higher education institutions in Punjab were included in the study. A total sample of 458 respondents was used for analysis.

4.3 Data Collection

Primary data were collected using a structured questionnaire designed to measure organisational culture, employee engagement, and mediating variables. The questionnaire was administered both physically and digitally to ensure wider participation.

4.4 Data Analysis Techniques

The collected data were analysed using statistical software such as SPSS and AMOS. The study employed advanced analytical techniques to ensure the robustness and validity of results.

5. Research Tools and Techniques

To achieve the objectives of the study, the following statistical tools and techniques were used:

5.1 Confirmatory Factor Analysis (CFA)

CFA was conducted to validate the measurement model and ensure that the observed variables accurately represent the underlying constructs. It helped establish construct validity and assess model fit.

5.2 Reliability Analysis (Cronbach's Alpha)

Cronbach's Alpha was used to measure the internal consistency of the constructs. All variables demonstrated reliability above the acceptable threshold of 0.70, ensuring consistency in measurement.

5.3 Multiple Regression Analysis

Multiple regression analysis was applied to examine the direct impact of organisational culture dimensions on employee engagement. This technique helped identify the relative importance of each predictor variable.

5.4 Structural Equation Modelling (SEM)

SEM was employed to analyse both direct and indirect relationships among variables. It enabled the examination of **mediating effects** of organisational resources such as communication, leadership, and training.

5.5 T-test and ANOVA

Inferential statistical tests such as the Independent Sample T-test and the One-Way ANOVA were used to assess differences in employee engagement across demographic variables like gender, institutional type, and academic experience.

Data Analysis and Interpretation

1. Introduction

This section presents the empirical analysis of the data collected from 458 faculty members across higher education institutions in Punjab. The analysis aims to examine the relationship between organisational culture and employee engagement using various statistical techniques, including Confirmatory Factor Analysis (CFA), reliability testing, Multiple Regression Analysis, Structural Equation Modelling (SEM), and comparative analysis through T-tests and ANOVA. The results are interpreted in alignment with the study objectives and theoretical framework.

2. Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis was conducted to validate the measurement model and assess the construct validity of organisational culture, mediating variables, and employee engagement.

Model Fit Indices

- CFI = 0.934
- RMSEA = 0.051
- Chi-square/df = 2.15

Interpretation

The model demonstrates a good fit, as all indices fall within acceptable thresholds (CFI > 0.90, RMSEA < 0.06, $\chi^2/df < 3$). This indicates that the hypothesised factor structure is well supported by the observed data.

Factor Loadings

- Organisational Culture: 0.62 – 0.89
- Mediating Variables: 0.64 – 0.91
- Employee Engagement: 0.71 – 0.88

All factor loadings exceed the recommended threshold of 0.60, confirming strong convergent validity. This implies that the measurement items reliably represent their respective constructs.

3. Reliability Analysis

Reliability was assessed using Cronbach's Alpha to ensure internal consistency of the constructs.

Construct	Cronbach's Alpha (α)
Organizational Culture	0.88
Employee Engagement	0.90
Organizational Support	0.82
Communication	0.85
Leadership	0.84
Training & Development	0.83
Work Environment	0.86

Interpretation

All constructs exhibit alpha values above 0.80, indicating high reliability and internal consistency. This confirms that the measurement scales are stable and suitable for further statistical analysis.

4. Multiple Regression Analysis

Multiple regression analysis was conducted to examine the direct impact of organisational culture dimensions on employee engagement.

Key Results

Variable	β Value	Significance
Values & Goal Clarity	0.312	$p < 0.01$
Team Orientation	0.298	$p < 0.01$
Organizational Leadership	0.276	$p < 0.05$
Autonomy	Moderate	Not Significant
HR Orientation	Moderate	Not Significant

Interpretation

The results indicate that Values & Goal Clarity is the strongest predictor of employee engagement, followed by Team Orientation and Leadership. These findings suggest that faculty engagement is significantly enhanced when institutional goals are clearly defined, teamwork is encouraged, and leadership is supportive.

On the other hand, Autonomy and HR Orientation did not show statistically significant effects, indicating that these factors alone may not directly drive engagement without the presence of strong cultural alignment and leadership support.

5. Structural Equation Modelling (SEM)

SEM was used to examine both direct and indirect relationships between organisational culture and employee engagement.

Model Fit Indices

- CFI = 0.928
- TLI = 0.914

- RMSEA = 0.054
- $\chi^2/df = 2.36$

Direct and Indirect Effects

Pathway	β Value	Significance
Org. Culture → Employee Engagement	0.41	$p < 0.001$
Org. Culture → Communication → Engagement	0.19	$p < 0.01$
Org. Culture → Leadership → Engagement	0.16	$p < 0.01$
Org. Culture → Training → Engagement	0.21	$p < 0.001$
Org. Culture → Organizational Support → Engagement	0.13	$p < 0.05$

Interpretation

The SEM results confirm that organisational culture has both direct and indirect effects on employee engagement. The direct effect ($\beta = 0.41$) is substantial, indicating a strong relationship. Among mediators, Training & Development and Communication exhibit the strongest indirect effects, highlighting their critical role in translating cultural values into engagement outcomes. These findings support the JD-R model, emphasising the importance of job resources in enhancing engagement.

6. Comparative Analysis

6.1 Institutional Differences (T-test)

Variable	Public Mean	Private Mean	p-value
Training & Development	3.21	3.69	0.002
Communication	3.45	3.88	0.004
Leadership	3.79	3.52	0.038

Interpretation

Private institutions demonstrate higher scores in training and communication, suggesting a more dynamic and performance-oriented culture. Public institutions, however, show relatively higher leadership stability.

6.2 Gender-Based Differences

- Female faculty reported higher engagement in team-oriented and supportive environments.
- Male faculty showed relatively higher preference for autonomy and innovation, though not statistically significant.

Interpretation

These findings suggest that collaborative and supportive cultures are more effective in enhancing engagement among female faculty, while autonomy may have a moderate influence on male faculty.

6.3 Faculty Experience (ANOVA)

Variable	F-value	Significance
Training & Development	4.62	$p < 0.05$
Leadership	3.98	$p < 0.05$
Autonomy	2.87	$p < 0.05$

Interpretation

- Junior faculty are more influenced by training and development opportunities.
- Mid-career faculty respond strongly to leadership and recognition.
- Senior faculty value autonomy and alignment with institutional goals.

This indicates that engagement drivers vary across career stages.

Interpretations

The empirical findings of the study provide significant insights into the relationship between organisational culture and employee engagement within higher education institutions in Punjab. The results derived from CFA, regression, SEM, and comparative analyses collectively reinforce the central role of organisational culture in shaping faculty engagement.

Firstly, the strong model fit indices obtained through Confirmatory Factor Analysis validate the structural integrity of the constructs used in the study. The high factor loadings indicate that faculty members clearly perceive and differentiate between organisational culture, mediating variables, and employee engagement. This suggests that these constructs are not only theoretically sound but also practically relevant in the context of higher education institutions.

Secondly, the reliability analysis confirms that all constructs exhibit high internal consistency, indicating that faculty responses were stable and coherent across different dimensions. This strengthens the credibility of the data and ensures that subsequent interpretations drawn from regression and SEM analyses are robust and dependable.

The regression analysis reveals that Values and Goal Clarity are the most influential predictors of employee engagement. This implies that when faculty members clearly understand institutional objectives and feel aligned with organisational values, they are more likely to demonstrate higher levels of dedication and enthusiasm. Similarly, Team Orientation significantly enhances engagement by fostering collaboration, peer support, and collective problem-solving, which are essential in academic environments. Leadership also plays a crucial role, as supportive and participative leadership styles create a positive work climate that encourages faculty involvement and commitment.

Interestingly, variables such as Autonomy and HR Orientation were not found to be statistically significant predictors. This suggests that while these factors are important, they may not directly influence engagement unless supported by strong cultural alignment, leadership effectiveness, and collaborative practices. This finding highlights the multidimensional nature of engagement, where relational and cultural factors outweigh purely structural elements.

The SEM results further deepen the understanding of this relationship by highlighting the mediating role of organisational resources. The significant indirect effects through Training and Development, Communication, Leadership, and Organisational Support indicate that organisational culture influences engagement not only directly but also through these enabling mechanisms. Among these, training and communication emerged as particularly strong mediators, suggesting that

institutions must invest in capacity-building initiatives and transparent communication systems to enhance engagement. The comparative analysis across demographic variables provides additional nuanced insights. Faculty in private institutions reported higher levels of engagement in areas such as training and communication, reflecting a more dynamic and performance-driven culture. Gender-based differences indicate that female faculty respond more positively to collaborative and supportive environments, while male faculty show a moderate inclination toward autonomy. Furthermore, differences across career stages reveal that engagement drivers evolve, with junior faculty valuing development opportunities and senior faculty prioritising autonomy and alignment with institutional goals. Overall, the findings strongly support the Job Demands–Resources (JD-R) model, demonstrating that job resources embedded within organisational culture play a critical role in enhancing employee engagement.

4. CONCLUSION

This study provides a comprehensive empirical examination of the impact of organisational culture on employee engagement in higher education institutions in Punjab. By integrating advanced statistical techniques such as CFA, Multiple Regression Analysis, and Structural Equation Modelling, the research establishes a clear and significant relationship between cultural dimensions and faculty engagement. The findings confirm that organisational culture is a key determinant of employee engagement, with dimensions such as values and goal clarity, team orientation, and leadership emerging as the most influential factors. These elements collectively create a supportive and motivating work environment that encourages faculty to invest emotionally and cognitively in their roles. The study also highlights the importance of organisational resources such as communication, training, and support systems as mediating mechanisms that strengthen the culture–engagement relationship. Another important contribution of the study lies in its identification of demographic variations in engagement. The results demonstrate that engagement is not uniform across faculty groups but is influenced by institutional type, gender, and experience. This underscores the need for tailored and inclusive engagement strategies that address the diverse needs of faculty members. From a practical perspective, the study offers valuable insights for institutional leaders and policymakers. To enhance faculty engagement, higher education institutions must focus on building strong organisational cultures characterised by clear goals, collaborative environments, and effective leadership. Investments in training, communication, and support systems are equally critical to translate cultural values into tangible engagement outcomes. In conclusion, the study not only validates the theoretical assumptions of the JD-R model in the context of higher education but also provides actionable recommendations for improving faculty engagement. As higher education institutions in Punjab continue to evolve in response to global challenges, fostering an engagement-driven organisational culture will be essential for achieving academic excellence, institutional sustainability, and long-term success.

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