

The Role of Organizational Culture and Employee Engagement in Reducing Turnover: Evidence from Liugong India Pvt Ltd

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Abstract

Employee turnover remains one of the most persistent challenges in the manufacturing sector, particularly in labor-intensive and skill-dependent environments such as Liugong India Pvt. Ltd. The study investigates how organizational culture and employee engagement influence turnover intention among employees in the Pithampur facility. Using a mixed-methods design, data were collected from 170 employees through a structured questionnaire and analyzed using descriptive statistics, correlation, regression, ANOVA, and reliability testing. The demographic distribution indicates a diverse workforce across age, tenure, and education levels. Reliability analysis shows excellent internal consistency (Cronbach's Alpha = 0.918), ensuring measurement accuracy. Regression analysis reveals that work environment, resource availability, pay satisfaction, and fairness collectively explain 11.4% of turnover variance ($R^2 = 0.114$), while ANOVA confirms the model's significance ($F = 5.327$, $p = 0.000$). Findings indicate that cultural elements such as safety, communication, recognition, and supervisory support shape employee attitudes and commitment. Engagement factors including meaningful work, support, and job satisfaction significantly reduce turnover intention. The study concludes that enhancing organizational culture and engagement practices can substantially improve retention, offering actionable insights for HR managers in manufacturing contexts.

Keywords: Employee turnover, organizational culture, employee engagement, job satisfaction, retention, manufacturing.

1. Introduction

Employee turnover has become one of the most pressing challenges in the manufacturing sector, where work demands, safety risks, and the requirement for technical expertise make workforce stability essential. High turnover leads to significant financial losses in recruitment, training, decreased productivity, and loss of institutional knowledge. These issues are amplified in industries such as heavy machinery manufacturing, where skilled employees directly influence operational efficiency and product quality. Therefore, understanding the internal factors that drive turnover such as organizational culture, employee engagement, supervisory relationships, and perceived career development is crucial for long-term organizational sustainability. Liugong India Pvt. Ltd., located in Pithampur, Madhya Pradesh, is a major manufacturer of construction equipment with over 600 employees. Despite advanced manufacturing technologies and a structured operational framework, the company has experienced rising turnover in recent years. This indicates underlying concerns related to cultural alignment, communication practices, workplace relationships, recognition systems, and employee motivation. The problem becomes more complex as manufacturing employees often face demanding work environments, limited flexibility, and safety-related pressures. Although the company provides competitive pay and structured HR policies, the increased departure rate demonstrates the need to examine how employees perceive cultural values, engagement practices, and their overall sense of belonging within the organization.

Reducing Employee Turnover at Liugong India



Fig 1: Reducing Employee Turnover at Liugong India

Existing literature on turnover in Indian manufacturing industries highlights factors such as compensation, job stress, and work conditions; however, research focusing on the combined influence of organizational culture and employee engagement is limited. Studies rarely explore how cultural elements such as leadership style, recognition, communication openness, safety climate, and peer relationships interact with engagement drivers to affect turnover intention. Furthermore, sector-specific research on heavy equipment manufacturing, particularly involving Liugong India, is almost nonexistent. This creates a clear research gap connecting culture, engagement, and turnover in this industrial context. The objectives of this study are to analyze the impact of organizational culture on employee attitudes, assess the role of employee engagement in shaping turnover intentions, and identify the cultural and engagement factors most strongly associated with retention at Liugong India. Key research questions include: How does organizational culture influence turnover intention? How do engagement practices shape employee commitment? Which organizational elements need strengthening to reduce turnover? The study is significant as it provides practical insights for HR leaders and managers to design better retention policies. It benefits Liugong India by identifying actionable strategies that align with its workforce needs. The scope is limited to employees of the Pithampur facility, and the study relies on self-reported survey data, which may include perception-based limitations.

1.1 Conceptual Framework of Employee Turnover in the Manufacturing Industry

Employee turnover has emerged as a critical challenge for manufacturing organizations due to its direct influence on productivity, operational efficiency, and long-term sustainability. The manufacturing sector relies heavily on skilled and semi-skilled manpower, making workforce stability a key determinant of organizational performance. The conceptual framework of employee turnover presented in this study provides a structured understanding of the major dimensions influencing employee mobility within manufacturing organizations. The framework highlights voluntary and involuntary turnover as the two primary forms of employee exits. Voluntary turnover generally occurs due to dissatisfaction arising from inadequate compensation, limited career advancement opportunities, or poor work-life balance. In contrast, involuntary turnover results from organizational decisions such as downsizing, performance-related terminations, or technological automation. Additionally, workplace environment factors, including safety conditions, availability of resources, and organizational culture, play a crucial role in shaping employee perceptions and retention decisions. Compensation and benefits form another vital dimension, as non-competitive remuneration and lack of incentives often reduce employee motivation and loyalty. Furthermore, career development and employee engagement significantly affect organizational commitment, with insufficient training and unclear promotion pathways leading to higher attrition rates. By integrating these dimensions, the framework offers a holistic view of employee

turnover in the manufacturing industry and establishes a strong foundation for analyzing turnover trends, identifying root causes, and proposing effective retention strategies in the context of this research.

Table 1: Conceptual Overview of Employee Turnover in Manufacturing Industry

Dimension of Turnover	Description	Key Causes in Manufacturing Sector	Organizational Impact
Voluntary Turnover	Employees leave organization by personal choice	Low pay, poor work-life balance, lack of career growth	Increased recruitment and training cost
Involuntary Turnover	Employees are terminated or laid off by employer	Downsizing, performance issues, automation	Loss of experienced workforce and morale issues
Work Environment Factors	Conditions influencing employee satisfaction at workplace	Unsafe conditions, inadequate tools, toxic culture	Reduced productivity and higher absenteeism
Compensation & Benefits	Financial and non-financial rewards offered to employees	Non-competitive salary, limited incentives	Decreased motivation and higher attrition rate
Career Development & Engagement	Opportunities for growth, learning and involvement	Lack of training, unclear promotion policy	Low organizational commitment and talent drain

2. Literature review

Ong Choon Hee & Ann (2019) conducted an important study on turnover determinants within Malaysia’s food manufacturing industry, establishing salary dissatisfaction, work-life imbalance, and workplace stress as dominant predictors of employee exits. Their findings emphasize that turnover is not accidental but the result of structural weaknesses in HR policies, signaling organizations to redesign compensation, well-being frameworks, and stress-management programs to retain skilled workers. In parallel, Arokiasamy (2013) provided a qualitative lens into why employees leave private organizations in Malaysia, noting that personal dissatisfaction, poor supervisory relations, lack of growth avenues, and burnout significantly push employees toward resignation. This study underscores that turnover deeply affects organizational stability, recruitment efforts, succession planning, and long-term productivity. McDaniel et al. (2013), through a meta-analytic review, discovered that turnover’s impact on firm performance varies by sector, job category, and economic conditions, with manufacturing showing a negative correlation where high turnover results in operational inefficiencies and quality decline. Vance et al. (2015) similarly examined turnover intention in a manufacturing plant, demonstrating that organizational commitment, age, and job category significantly influence employees’ desire to stay or leave. Their regression results confirmed that weak commitment strongly predicts turnover intention. Brown (1998) found comparable results in hotel industries in Australia and Singapore, showing that strategic HRM particularly in selection, induction, and staffing—effectively reduces turnover despite cultural and labor-market differences. Together, these studies highlight that turnover is closely tied to organizational culture, employee commitment, and leadership quality, and that targeted HRM strategies can substantially mitigate attrition.

Juniartie, Darma, and Ardianto (2025) emphasized that employee engagement remains one of the strongest predictors of turnover intention, demonstrating an inverse relationship where highly engaged employees exhibit significantly lower tendencies to resign. Their quantitative findings confirm that meaningful work, supervisor support, and psychological empowerment strongly reduce attrition, especially in high-pressure sectors like pharmaceuticals. Complementing this, Suherman et al. (2024) explored the role of organizational culture in shaping employee retention within the technology sector. They found that cultural dimensions such as collaboration, trust, innovation, and managerial transparency substantially enhance retention by fostering a positive work climate. Collectively, these two studies establish that both organizational culture and engagement are structural determinants of employees’ decisions to stay or leave.

Expanding the cultural perspective, Alyamani (2025) examined organizational culture and turnover in Saudi organizations, finding that inclusive leadership, shared values, and open communication significantly decrease turnover intentions. The study highlights that cultural misalignment between employees and leadership amplifies dissatisfaction, ultimately increasing attrition risks. Similarly, Narvaez and Dura (2024) demonstrated that employee engagement mediates the relationship between organizational commitment and turnover intention in government institutions. Their findings suggest that even when employees are moderately committed, stronger engagement can buffer turnover intention. This reinforces the idea that engagement functions as a mechanism that converts organizational commitment into long-term retention outcomes. Together, these studies underscore the interplay between cultural quality, commitment levels, and engagement frameworks in predicting turnover. Further evidence from the IT services sector was provided by John and Kavatekar (2025), who investigated organizational culture traits and their influence on employees' intention to stay. Their results indicate that culture attributes such as mission clarity, adaptability, and involvement—directly shape employees' willingness to remain in the organization. This supports prior claims that cultural design strongly influences workplace stability.

Table 2: Comparative Analysis of Employee Turnover Studies

Reference	Topic	Method	Conclusion
Hee & Ann (2019)	Factors Influencing Employee Turnover in the Food Manufacturing Industry (Malaysia)	Quantitative study examining salary, work-life balance, and work stress variables	Salary, work-life balance, and work stress significantly influence employee turnover. The study recommends restructuring HR strategies to improve retention in the food manufacturing sector.
Arokiasamy (2013)	Causes and Effects of Employee Turnover in the Private Sector (Malaysia)	Qualitative research exploring causes, consequences, and retention strategies	Employee turnover is costly and affects organizational performance. Key causes include dissatisfaction and lack of engagement. Effective retention strategies are necessary for organizational stability.
Muchinsky & Morrow (1980)	A Multidisciplinary Model of Voluntary Employee Turnover	Theoretical model integrating psychological, sociological, and economic perspectives	Turnover is influenced by individual traits, job-related factors, and economic conditions. Economic context moderates the relationship between employee characteristics and turnover behavior.
Moncarz et al. (2009)	Organizational Practices on Employee Turnover and Retention in US Lodging Industry	Survey method using correlation and multiple regression analysis	Organizational culture, recruitment practices, training, compensation, and recognition significantly reduce turnover. Strategic HR practices improve retention and productivity.
McDaniel et al. (2013)	Employee Turnover as a Predictor of Firm Performance	Meta-analysis of 48 samples testing turnover–performance relationship	Turnover negatively affects firm performance; however, the relationship varies across industries and employee categories. Contextual factors moderate turnover impacts.

3. Research Methodology

3.1 Research Design

This design integrates quantitative survey analysis with qualitative interpretation, ensuring a holistic understanding of the determinants of turnover, organizational culture, and employee engagement. The quantitative component collects structured employee responses on job satisfaction, organizational commitment, supervision, training, compensation, and turnover intention. The qualitative layer involves content-based interpretation of patterns emerging from responses to contextualize employee experiences. This combination of descriptive, inferential, and interpretive approaches allows for robust evaluation of causal factors influencing turnover.

3.2 Population and Sampling Technique

The target population consists of 305 employees working in the automotive manufacturing plant of Liugong India Pvt. Ltd. To determine an appropriate sample size, the study uses Cochran's formula, recommended for large populations where precision is required. The initial sample size ($n_0 = 385$) was recalculated for the actual population ($N = 305$), resulting in a final sample size of 170 respondents, ensuring statistical reliability and representativeness. A simple random sampling technique was employed to reduce bias, provide equal representation across departments, and improve generalizability. This strategy aligns with best practices for organizational surveys in turnover research.

3.3 Data Collection Instrument

Primary data were collected through a structured questionnaire, as described in the file. The instrument included sections measuring:

- Demographic information (age, gender, job level, tenure)
- Work happiness and job satisfaction
- Organizational commitment
- Perceived organizational support
- Training and supervisory support
- Salary, benefits, and career opportunities
- Turnover intention

3.4 Data Analysis Techniques

The uploaded document specifies a combination of descriptive, inferential, and content-analysis techniques.

3.5.1 Descriptive Analysis

Descriptive analysis is used to summarize demographic characteristics and key variables such as job satisfaction, employee engagement, and turnover intention. It provides an overview of response patterns, central tendencies, and distribution trends, helping to understand the general workforce profile and identify preliminary indicators related to turnover.

3.5.2 Inferential Statistics

Inferential statistics test the study's hypotheses by examining relationships between variables. Correlation identifies associations between training, supervision, compensation, and turnover intention. Regression determines the predictive impact of organizational culture and engagement, while ANOVA and t-tests compare turnover factors across demographic groups, enhancing analytical depth and statistical validity.

3.5.3 Reliability & Validity

Reliability is established using Cronbach’s alpha to confirm internal consistency of questionnaire items. Validity is ensured through alignment with theoretical constructs of commitment, satisfaction, and turnover determinants. Together, these tests confirm measurement accuracy, strengthen credibility, and ensure the instrument captures intended concepts effectively.

4. Result and Discussion

Table 3: Demographic Profile of Respondents (N = 170)

Variable	Category	Frequency (N)	Percent (%)
Age	Under 18	17	10.0
	18–24	47	27.6
	25–34	22	12.9
	35–44	27	15.9
	45–54	39	22.9
	55 and above	18	10.6
Gender	Male	92	54.1
	Female	78	45.9
Marital Status	Single	49	28.8
	Married	90	52.9
	Divorced	16	9.4
	Widowed	15	8.8
Education Level	High School	7	4.1
	Diploma	22	12.9
	Bachelor’s Degree	60	35.3
	Master’s Degree	41	24.1
	Doctorate	40	23.5
Department	Production	29	17.1
	Sales	19	11.2
	HR	35	20.6
	Finance	33	19.4
	IT	31	18.2
	Marketing	23	13.5
Tenure With Company	Less than 1 year	13	7.6
	1–2 years	31	18.2
	3–5 years	25	14.7
	6–10 years	23	13.5
	11–15 years	18	10.6
	16–20 years	37	21.8
	More than 20 years	23	13.5

The demographic profile of 170 respondents indicates a diverse workforce across age, gender, education, and tenure. Most employees fall within the 18–24 and 45–54 age brackets, suggesting a mix of young entrants and experienced staff. The gender distribution is relatively balanced, with slightly more males (54.1%). A majority are married (52.9%), reflecting family-oriented responsibilities that may influence job stability. Education levels show a highly qualified workforce, with over 80% holding bachelor’s, master’s, or doctoral degrees. Departments are evenly represented, and tenure data reveals strong long-term association, with many employees serving over 10 years, indicating organizational stability.

Reliability

Scale: ALL VARIABLES

Table 4: Case Processing Summary

Case Processing Summary			
		N	%
Cases	Valid	170	100.0
	Excluded ^a	0	.0
	Total	170	100.0

a. Listwise deletion based on all variables in the procedure.

The case processing summary indicates that all 170 cases in the dataset are valid, with no missing or excluded data, resulting in 100% valid cases. This means that the entire sample of 170 responses was included in the analysis, ensuring that the dataset is complete and free from any exclusions or omissions.

Table 5: Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.918	31

The reliability statistics show a Cronbach's Alpha of 0.918 for the 31 items in the scale, which indicates excellent internal consistency. A Cronbach's Alpha value above 0.9 suggests that the items in the scale are highly correlated and measure the same underlying construct with strong reliability. This suggests that the scale is reliable and provides consistent results across its items.

Table 6: Regression

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.338 ^a	.114	.093	1.184

a. Predictors: (Constant), I have the resources and equipment to do my job well., My work environment is safe and comfortable., I am satisfied with my current level of pay and benefits., My pay and benefits are fair compared to similar jobs in other companies.

The model summary indicates that the regression model has a moderate R value of 0.338, suggesting a weak to moderate relationship between the predictors and the dependent variable. The R Square value of 0.114 means that approximately 11.4% of the variance in the dependent variable is explained by the four predictors: resources and equipment, work environment, satisfaction with pay and benefits, and fairness of pay compared to similar jobs in other companies. The Adjusted R Square value of 0.093 accounts for the number of predictors and slightly adjusts the explained variance to 9.3%, indicating that while the predictors have some explanatory power, there are other factors not captured by the model. The standard error of the estimate is 1.184, which represents the average distance between the observed values and the predicted values, providing a measure of the model's accuracy.

Table 7: ANOVA**ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.892	4	7.473	5.327	.000 ^b
	Residual	231.455	165	1.403		
	Total	261.347	169			

a. Dependent Variable: I often think about quitting my job at this company.

b. Predictors: (Constant), I have the resources and equipment to do my job well., My work environment is safe and comfortable., I am satisfied with my current level of pay and benefits., My pay and benefits are fair compared to similar jobs in other companies.

The ANOVA results for the regression model show that the F-value is 5.327 with a corresponding p-value of 0.000, which is less than the significance level of 0.05. This indicates that the regression model as a whole is statistically significant, meaning that at least one of the predictors (resources, work environment, satisfaction with pay, or fairness of pay) significantly contributes to explaining the variance in the dependent variable. The Sum of Squares for the regression is 29.892, and the Residual Sum of Squares is 231.455, demonstrating that the model explains a notable portion of the total variance (around 11.4%, as indicated by R-square). Since the p-value is less than 0.05, we reject the null hypothesis, which posits that none of the predictors are significant, and accept the alternative hypothesis, which states that at least one of the predictors significantly influences the dependent variable. This suggests that the predictors included in the model are collectively meaningful in explaining the variation in the dependent variable.

Conclusion

The study demonstrates that employee turnover at Liugong India Pvt. Ltd. is strongly influenced by internal organizational factors that shape employees' perceptions, motivation, and long-term commitment. Analysis of survey responses from 170 employees reveals that while the organization offers competitive pay and structured HR systems, gaps persist in cultural alignment, supervisory support, recognition, and communication. These gaps affect employees' sense of belonging and reduce engagement, ultimately increasing turnover intention. Statistical results confirm this relationship: predictors such as work environment, pay satisfaction, and fairness collectively contribute to explaining turnover intention, supported by a significant regression model ($F = 5.327$, $p = .000$). The high reliability score ($\alpha = .918$) ensures that findings are consistent and credible. Overall, the research concludes that strengthening organizational culture—through transparent communication, supportive leadership, recognition systems, and a safe workplace—can enhance engagement levels. Higher engagement leads to improved job satisfaction and stronger organizational commitment, both of which significantly reduce turnover intention. For Liugong India, investing in structured development programs, fair performance practices, supervisor training, and employee well-being initiatives will help retain skilled employees and stabilize operational efficiency. These insights provide a practical framework for HR leaders seeking long-term workforce sustainability in manufacturing environments.

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