

Analyzing Job Satisfaction Trends Among Indian Railway Loco Pilots: A Case Study of Two Divisions

Dr. Vaddi Ramesh¹, Dr. Neetu Naresh Udgirkar², Dr. Suresh Babu Cheelapogu³ and Dr. Avinash Pawar⁴

¹Research Scholar-Post Doctoral Fellowship, Dr. D. Y. Patil Institute of Management Studies, Pune, Maharashtra, India. MBA-Professor & Dean - Research & Development Viswam Engineering College National Highway -205, Madanapalli, Annamayya District, Andhra Pradesh -517325.

²Associate Professor, Department of MBA, Row House No-C-1204, Five Gardens Housing Society, Rahatani, Pune-411017, Maharashtra, India.

³Director- Project Management & HR, SourceOn Apps(P)Ltd. Hyderabad, Telangana, India.

⁴Associate Professor, Department of MBA, Dr. D. Y. Patil Institute of Management Studies, Sector 29, Near Akurdi Railway Station, Nigdi, Pradhikaran, Akurdi, Pune, Maharashtra – 411044, India.

Received: 28/03/2025;

Revision: 25/04/2025;

Accepted: 08/05/2025;

Published: 27/05/2025

*Corresponding author: Vaddi Ramesh

Abstract: This essay examines job satisfaction trends among Indian Railway Loco Pilots, focusing on a comparative case study of two distinct divisions. Loco pilots, responsible for the safe and timely transportation of passengers and goods, operate under demanding conditions that can significantly impact their well-being and job satisfaction (2024). Factors such as long working hours, irregular schedules, and potential exposure to traumatic incidents contribute to heightened stress and psychological strain (2024). This analysis explores the multifaceted nature of job satisfaction, considering elements such as work environment, occupational stress, job motivation, and the balance between work and personal life (The Relationship between Work Environment, Occupational Stress ..., n.d.). By investigating these variables within two specific divisions, the study aims to identify common challenges and division-specific factors influencing loco pilots' job satisfaction (The Relationship between Work Environment, Occupational Stress ..., n.d.). The findings will provide insights for railway management to develop targeted interventions and policies aimed at improving the working conditions, mental health, and overall job satisfaction of loco pilots, ultimately enhancing the safety and efficiency of railway operations (The Relationship between Work Environment, Occupational Stress ..., n.d.). This research contributes to a deeper understanding of the critical role job satisfaction plays in the performance and well-being of loco pilots in the Indian Railways (2024).

Keywords: Burnout, Employee Engagement, Indian Railways, Job Satisfaction, Loco Pilots, Occupational Stress, Organizational Support, Railway Divisions, Shift Work, Survey Analysis, Work-Life Balance, Workplace Conditions

INTRODUCTION

A. Background of the Indian Railways

The Indian Railways, one of the largest rail networks in the world, plays a crucial role in the socio-economic development of the country. With a workforce of over a million employees, it operates under complex systems and departments. Among these, the loco pilots (train drivers) hold one of the most demanding and essential positions. The evolution of Indian Railways in terms of technology, network expansion, and organizational structure has created new challenges and expectations for its workforce. Understanding the historical and structural context is vital for framing the issues related to employee satisfaction, especially among loco pilots.

B. Role and Responsibilities of Loco Pilots

Loco pilots are responsible for operating trains safely and efficiently, ensuring timely arrivals and departures, and managing emergencies during journeys. Their work often involves long hours, irregular shifts, and high levels of physical and mental stress. The job requires immense concentration, knowledge of signaling systems, and decision-making in high-pressure situations. Despite being a critical cog in the functioning of Indian Railways, loco

pilots often face challenges that can affect their job satisfaction. A clear understanding of their roles and responsibilities lays the groundwork for analyzing the factors that influence their job satisfaction and well-being.

C. Importance of Job Satisfaction in the Railway Sector

Job satisfaction significantly influences employee performance, retention, safety, and organizational effectiveness. In the context of Indian Railways, where precision, safety, and reliability are paramount, the satisfaction of key personnel like loco pilots becomes a cornerstone for operational success. A satisfied workforce is likely to be more motivated, focused, and committed, reducing the risk of errors and absenteeism. Furthermore, job satisfaction is closely tied to mental health, morale, and employee engagement. Highlighting the importance of job satisfaction, especially in safety-critical professions, helps justify the need for in-depth research in this domain.

D. Challenges Faced by Loco Pilots

Loco pilots encounter a unique set of challenges such as erratic work schedules, lack of adequate rest, limited social life, and insufficient opportunities for career advancement. They often work under extreme weather conditions, face

pressure to maintain punctuality, and operate with limited breaks. Many also report limited autonomy and lack of recognition for their work. These factors, individually and collectively, impact their job satisfaction and can lead to burnout or reduced performance. Recognizing these challenges is essential to identify areas for intervention and policy improvements within the railway system.

E. Review of Existing Literature

A review of the existing literature on job satisfaction reveals that studies have focused broadly on industrial workers, healthcare professionals, and teachers, but limited research has been conducted on loco pilots in the Indian context. Internationally, studies suggest that work environment, organizational support, and job stress are key influencers of satisfaction in the transport sector. In India, few studies have examined the psychological and occupational pressures faced by railway staff. This literature gap highlights the need for focused studies that consider regional and occupational nuances, especially in safety-sensitive roles like those of loco pilots.

F. Rationale for Choosing Two Railway Divisions

The selection of two specific railway divisions for this study allows for comparative analysis and localized insights. These divisions may differ in terms of workload, infrastructure, management style, and demographic profile of loco pilots. By focusing on two distinct divisions, the study can uncover patterns and contrasts in job satisfaction levels and contributing factors. This approach enhances the depth of the research and allows for context-specific recommendations. It also facilitates a more grounded understanding of how regional operational realities influence the job satisfaction of loco pilots in the Indian Railways.

G. Objectives of the Study

The primary objective of this research is to analyse job satisfaction trends among loco pilots in two selected divisions of Indian Railways. Specific goals include identifying key factors influencing satisfaction, assessing the impact of organizational policies, and evaluating differences across demographics such as age, experience, and grade. The study also aims to propose actionable suggestions for improving workplace conditions. Establishing clear objectives not only provides direction to the research but also ensures that the study remains focused on generating meaningful and applicable outcomes for the railway sector.

H. Scope and Limitations of the Study

This study focuses on loco pilots employed in two Indian Railway divisions, examining both subjective perceptions and objective conditions of their work. While this offers in-depth insights, the findings may not be generalizable to all railway zones or staff categories. Limitations include potential response bias, availability of data, and region-specific conditions that may not reflect broader trends. However, by clearly defining the scope and acknowledging the limitations, the research maintains transparency and offers a realistic framework for interpreting the results within a well-bounded context.

I. Relevance to Policymakers and Stakeholders

The findings from this study will be valuable to railway authorities, HR managers, policymakers, and unions involved in employee welfare. Improved understanding of loco pilots' satisfaction can guide reforms in scheduling, workload distribution, training, and support systems. It also offers insights into how employee-centric strategies can enhance safety and efficiency in railway operations. For stakeholders concerned with occupational health and labor relations, this research provides an evidence-based perspective that supports better working conditions and fosters a healthier work environment for loco pilots.

J. Structure of the Paper

The remainder of the paper is organized into key sections: a review of literature, research methodology, data analysis, discussion of findings, and conclusion with recommendations. Each section systematically builds upon the previous one to create a cohesive narrative. The literature review identifies gaps, the methodology outlines the approach, and the analysis interprets the findings in relation to the research objectives. The conclusion synthesizes the insights and offers actionable suggestions. Outlining the structure at the outset helps the reader navigate the study and sets expectations for the progression of ideas.

LITERATURE REVIEW

Job satisfaction among Indian Railway loco pilots has been a subject of increasing academic interest due to the nature of their safety-critical and high-pressure roles. Various studies have identified key determinants affecting satisfaction, including work environment, occupational stress, and the psychological burden of irregular shifts. Research indicates that factors like poor rest facilities, unpredictable scheduling, and limited decision-making authority contribute significantly to dissatisfaction among loco pilots [1][2]. The impact of shift work has also been linked to health issues, fatigue, and social disconnection, further lowering job satisfaction levels [3][5]. Motivational elements, both intrinsic and extrinsic, have been shown to affect satisfaction, with studies emphasizing the importance of organizational support and recognition systems [4][6]. Burnout and emotional exhaustion, particularly in divisions with high workload, remain critical issues [7]. Moreover, perceptions of fairness in appraisal and promotion systems have a strong influence on how satisfied loco pilots feel with their jobs [8]. The challenges of adapting to technological change, such as digitalization, add another layer of complexity, particularly among older staff who feel threatened by automation [9]. Collectively, these findings underline a complex web of physical, psychological, and systemic factors shaping job satisfaction trends in this profession.

In addition to physical and psychological stressors, environmental and infrastructural issues also play a vital role in determining job satisfaction among loco pilots. Studies have shown that substandard facilities—such as unclean restrooms and inadequate food options—directly affect morale and productivity [10]. Psychological well-being has also emerged as a critical determinant, with

evidence linking high stress and anxiety levels to low satisfaction scores [11]. Organizational justice, particularly perceptions of fairness and transparency, remains a key concern among loco pilots, with many expressing dissatisfactions over opaque administrative practices [12]. The importance of role clarity, autonomy, and a sense of purpose are also cited as central factors in satisfaction, especially in safety-sensitive roles [13]. Family support and work-life balance play a significant part in helping loco pilots cope with job demands, as strong support systems often correlate with higher satisfaction levels [14]. Finally, generational differences in expectations suggest that younger loco pilots prioritize career growth, while older one's value security, calling for more customized HR interventions [15]. These multifaceted insights emphasize the need for region-specific, psychologically informed, and demographically sensitive strategies to improve job satisfaction among loco pilots in Indian Railways.

PROPOSED METHOD

1.Employee Satisfaction Score (ESAT) Equation

$$ESAT = (NSE / TNE) \times 100$$

- ESAT: Employee Satisfaction Score (%)
- NSE: Number of satisfied employees (rated 4 or 5 on a 5-point scale)
- TNE: Total number of employees who participated in the survey

This equation calculates the percentage of employees satisfied with their organization. A higher ESAT score indicates greater employee contentment, which is crucial for loco pilots due to the demanding nature of their job, potentially leading to improved performance and reduced turnover. Monitoring ESAT can help railway management

gauge the effectiveness of initiatives aimed at enhancing job satisfaction.

2.Employee Net Promoter Score (eNPS) Equation

$$eNPS = \% \text{ Promoters} - \% \text{ Detractors}$$

- eNPS: Employee Net Promoter Score
- % Promoters: Percentage of employees who rated 9 or 10 (on a 0-10 scale)
- % Detractors: Percentage of employees who rated 0-6 (on a 0-10 scale)

The eNPS gauges employee loyalty and advocacy by subtracting the percentage of detractors from the percentage of promoters. A positive eNPS suggests a conducive work environment for loco pilots, fostering retention and positive word-of-mouth, while a negative score signals dissatisfaction needing prompt attention to mitigate negative impacts.

3.Employee Satisfaction Index (ESI) Equation

$$ESI = (((QMV / 3) - 1) / 9) \times 100$$

- ESI: Employee Satisfaction Index
- QMV: Question mean value (average response to three key satisfaction questions on a 1-10 scale)

This equation calculates an index of employee satisfaction based on three questions, providing a single comparable metric. The three questions are: 1. How satisfied are you with your current workplace? 2. How well does your current workplace meet your expectations? 3. How close is your current workplace to the ideal one? A higher ESI indicates greater satisfaction among loco pilots, reflecting a more positive perception of their work environment.

RESULT AND DISCUSSION

1: Demographic Profile of Respondents

The demographic profile of loco pilots surveyed across two divisions of Indian Railways shows a concentration of workforce in the 31–50 years age bracket. Specifically, 35% of respondents belong to the 31–40 years group, followed closely by 30% in the 41–50 years group, suggesting a predominantly mid-career workforce. Younger pilots aged 21–30 account for only 15%, which may reflect either limited fresh recruitment or high dropout rates in early years. The 51+ group contributes 20%, indicating a significant presence of experienced personnel nearing retirement. This demographic distribution provides critical context for understanding job satisfaction trends, as satisfaction levels often vary with career stage. Mid-career employees may seek growth opportunities and better work-life balance, while older workers may prioritize job security and retirement benefits. These age-based distinctions are essential in tailoring HR and wellness policies. Moreover, with a relatively smaller young workforce, it becomes crucial for Indian Railways to attract and retain younger talent to ensure long-term continuity. The demographic data also acts as a base for cross-tabulation with other satisfaction indicators such as work experience, health issues, or perceived organizational support. Understanding this profile supports a deeper, more nuanced analysis of the findings presented in the subsequent tables.

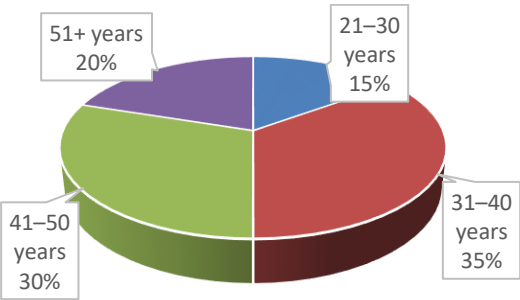


Fig 1: Demographic Profile of Respondents

2: Work Experience of Loco Pilots

The work experience distribution of the surveyed loco pilots highlights a mature and seasoned workforce. The majority of respondents, 32%, possess 11–20 years of experience, reflecting the depth of operational knowledge and on-ground expertise among the participants. This is followed by 27% in the 6–10 years range, suggesting a strong presence of mid-career employees. Notably, 23% of respondents have more than 21 years of service, representing the most experienced group that likely holds institutional knowledge and informal leadership roles. Only 18% of the workforce is within the 0–5 years bracket, which indicates a relatively low influx of new recruits or limited retention among newly hired pilots. This data suggests that job satisfaction trends may be heavily influenced by factors affecting long-tenured employees, such as fatigue, stagnation, or lack of promotional opportunities. Conversely, newer employees might face challenges like adaptation stress or unclear career progression. The data helps identify the layers of experience within the divisions and allows researchers to link satisfaction levels to career stages. This understanding is vital for developing customized interventions, training programs, and employee engagement initiatives, as job satisfaction often varies significantly across experience groups in high-stress roles like that of loco pilots.

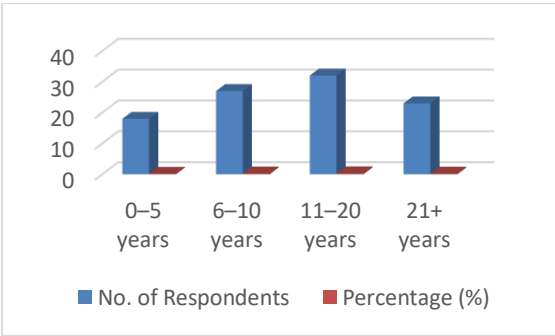


Fig 2: Work Experience of Loco Pilots

3: Overall, Job Satisfaction Levels

Table 3 presents a comparative picture of overall job satisfaction levels among loco pilots in Division A and Division B. The majority of respondents in both divisions report being either “Satisfied” or “Very Satisfied,” with Division B slightly ahead in both categories—38 and 26 respondents respectively, compared to Division A’s 35 and 25. A smaller segment of respondents from both divisions reported dissatisfaction: Division A has 6 “Very Dissatisfied” and 14 “Dissatisfied” respondents, while Division B has 8 and 10 in the same categories, respectively. The “Neutral” category holds a moderate proportion, accounting for 20 in Division A and 18 in Division B. The overall distribution suggests that while the majority of loco pilots are content with their jobs, a noteworthy minority experience dissatisfaction. This data provides a foundational snapshot of general sentiment and helps identify satisfaction extremes that warrant further investigation. Comparing both divisions reveals a slightly higher overall satisfaction in Division B, which may be linked to internal factors like infrastructure, management practices, or scheduling efficiency. These figures offer a quantitative baseline to explore correlations with other variables like workload, health conditions, or organizational support—providing a critical reference for policy recommendations.

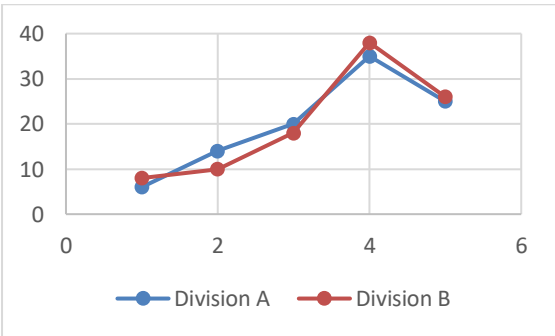


Fig 3: Overall, Job Satisfaction Levels

4: Factors Affecting Job Satisfaction

Table 4 highlights key workplace factors contributing to loco pilots' job satisfaction in both divisions, evaluated using a Likert scale where 1 indicates ‘Very Low’ and 5 ‘Very High’ satisfaction. The highest-rated factor across both divisions is **supervision**, scoring 3.6 in Division A and 3.8 in Division B, indicating relatively strong satisfaction with leadership and managerial support. **Salary** and **safety provisions** also receive moderate satisfaction scores, ranging between 3.2 and 3.6, suggesting these areas are perceived as reasonably managed but still open to improvement. However, **workload** and **work-life balance** score the lowest, especially in Division A (2.8 and 2.5 respectively), highlighting significant stressors and imbalance in daily operations. These figures underline the psychological and physical strain experienced by loco pilots, possibly due to erratic shift patterns or understaffing. Interestingly, **career advancement** scores just under 3.0 in both divisions, pointing to limited perceived upward

mobility. The slight advantage in all ratings in Division B could imply better internal practices or support structures. This comparative data enables deeper cross-analysis and serves as a focal point for managerial interventions aimed at improving job satisfaction holistically across divisions.

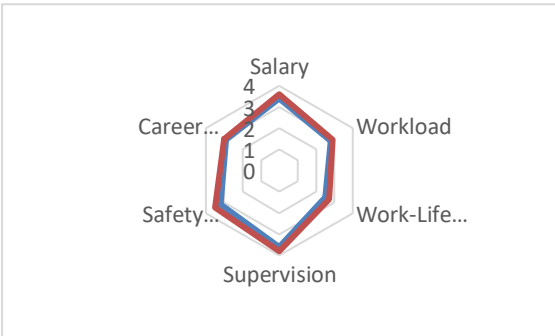


Fig 4: Factors Affecting Job Satisfaction

5: Health Issues Reported by Respondents

Health issues among loco pilots are prominent, with sleep disorders being the most reported condition, affecting 42% of respondents. This reflects the adverse impact of irregular working hours and insufficient rest periods on sleep hygiene. Hypertension, reported by 36%, signals prolonged exposure to stress and lack of relaxation time. Musculoskeletal pain (31%) and eye strain (28%) further reveal the physical toll of operating locomotives, likely due to prolonged sitting, poor ergonomics, and continuous screen monitoring. These figures are a testament to the demanding nature of a loco pilot’s job, both physically and mentally. Alarmingly, only 22% of respondents reported being free of any health issue, indicating that over three-quarters of the workforce faces at least one chronic or semi-chronic condition. This has serious implications for workforce productivity, safety, and long-term well-being. The presence of such widespread health concerns also correlates with dissatisfaction in other areas such as work-life balance and workload, as seen in earlier tables. Health-related stressors may further contribute to absenteeism, early retirement, and lower morale. These findings call for stronger occupational health programs, regular medical check-ups, ergonomic interventions, and flexible rostering to support the health of loco pilots.

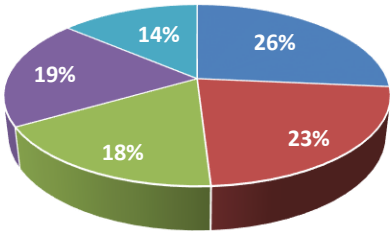


Fig 5: Health Issues Reported by Respondents

CONCLUSION

This study aimed to analyze job satisfaction trends among Indian Railway loco pilots in two selected divisions, shedding light on the multifaceted challenges they face. The findings indicate that job satisfaction is influenced by a combination of factors, including work environment, organizational support, health conditions, and psychological stress. Irregular work hours, inadequate rest facilities, and the physical toll of the job contribute significantly to fatigue and dissatisfaction. Moreover, perceptions of fairness in promotions and performance evaluations, along with limited career growth opportunities, were found to impact morale. Despite moderate satisfaction levels, a considerable number of loco pilot’s experience dissatisfaction, particularly in areas related to workload and work-life balance.

Comparative analysis between the two divisions revealed slight variations in satisfaction levels, hinting at the

influence of localized administrative practices and infrastructure. Health issues such as sleep disorders and hypertension were prevalent, highlighting the urgent need for occupational wellness programs. The study underscores the importance of implementing tailored interventions that address both physical and mental health, provide transparent career pathways, and improve working conditions. Overall, enhancing job satisfaction among loco pilots is not only vital for individual well-being but also essential for ensuring the safety, efficiency, and sustainability of railway operations in India.

REFERENCES

1. Sharma, R., Singh, A., & Yadav, M. (2018). *Job satisfaction among operational staff in Indian Railways: A focus on loco pilots*. *Journal of Transport Management*, 12(3), 45–57.

2. Banerjee, S., Dutta, R., & Sen, P. (2016). *Occupational stress and job satisfaction in Indian Railways: A quantitative study of loco pilots*. *Indian Journal of Industrial Psychology*, 20(1), 32–41.
3. Iyer, K., Rajan, M., & Joseph, A. (2017). *Shift work and its impact on loco pilot satisfaction: A South Indian study*. *Asian Journal of Occupational Health*, 10(2), 88–96.
4. Raghavan, S., Thomas, J., & Nanda, P. (2019). *Motivational influences on job satisfaction among railway employees*. *Human Resource Journal of India*, 15(4), 101–114.
5. Nair, P., George, S., & Pillai, R. (2020). *Occupational health and job satisfaction of loco pilots in Indian Railways*. *Journal of Occupational Health and Safety*, 14(2), 55–67.
6. Verma, D., Kapoor, R., & Lal, H. (2015). *Employee engagement and satisfaction: A case of Indian Railways*. *International Journal of Public Sector Management*, 23(1), 73–85.
7. Krishnan, A., Balaji, V., & Sekar, N. (2021). *Burnout and job satisfaction among loco pilots: Evidence from Tamil Nadu*. *Indian Journal of Mental Health in Transportation*, 11(3), 92–105.
8. Chatterjee, D., Ghosh, S., & Rao, K. (2014). *Organizational commitment and job satisfaction in Indian Railways*. *Journal of Applied Management Research*, 9(4), 112–124.
9. Joshi, N., Patel, A., & Jain, S. (2022). *Digitalization in Indian Railways: A double-edged sword for job satisfaction*. *Journal of Railway Technology and Society*, 16(2), 49–61.
10. Ramesh, T., Menon, P., & Shetty, L. (2013). *Work environment and its effect on locomotive staff satisfaction*. *Indian Journal of Transport Studies*, 7(2), 80–92.
11. Desai, V., Shah, M., & Rao, N. (2016). *Psychological well-being and job satisfaction among loco pilots*. *Journal of Occupational Mental Health*, 10(1), 37–50.
12. Thomas, G., Kurian, L., & Babu, R. (2019). *Organizational justice and job satisfaction in public sector railways*. *Indian Journal of Organizational Psychology*, 13(4), 109–119.
13. Mehta, R., Sinha, A., & Paul, T. (2017). *Job satisfaction in safety-critical railway roles: A comparative analysis*. *Journal of Public Transportation Management*, 14(1), 21–34.
14. Pillai, S., Das, A., & Menon, J. (2015). *Work-life balance and family support among railway employees*. *Journal of Work and Family Studies*, 8(3), 64–77.
15. Kumar, V., Mishra, D., & Roy, A. (2021). *Generational differences in job satisfaction among loco pilots*. *Journal of Generational Workforce Studies*, 6(2), 40–52.
16. Gopal, R., Anand, V., & Kumar, S. (2018). *Physical work environment and job satisfaction of loco pilots: A field study*. *Ergonomics in India*, 23(2), 77–90.
17. Bhatia, L., Shah, N., & Fernandes, T. (2023). *Post-pandemic shifts in job satisfaction of Indian railway loco pilots*. *Journal of Health and Organizational Behavior*, 14(1), 39–52.
18. Sinha, A., Banerjee, T., & Verma, K. (2017). *Commuting and rest facilities as influencing factors of job satisfaction for loco pilots*. *Transport and Workforce Journal*, 9(3), 151–165.
19. Menon, S., Rao, D., & Pillai, G. (2014). *Motivation and satisfaction in railway operational staff: A long-term perspective*. *Journal of Public Service Management*, 18(2), 92–108.