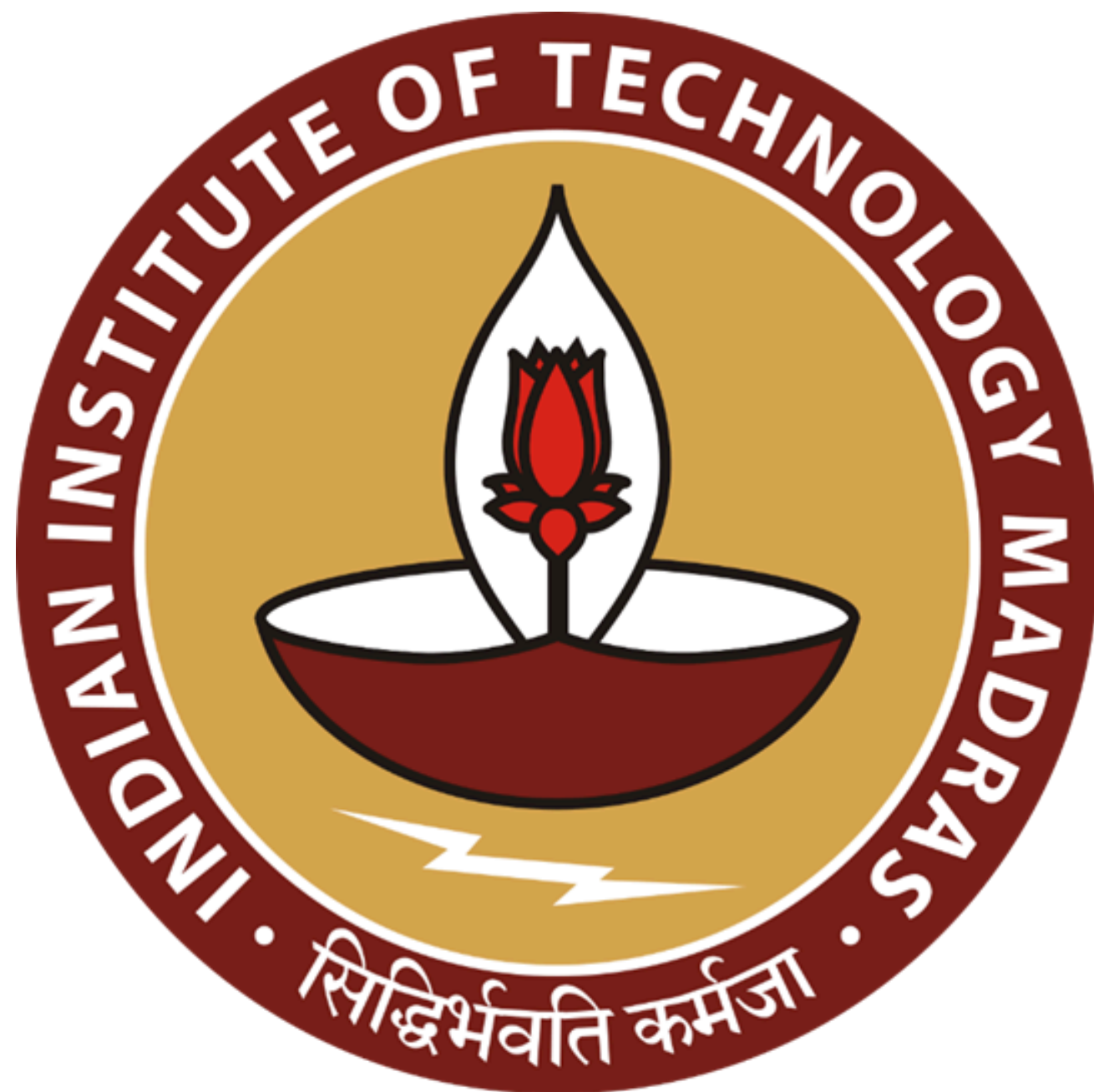


THE DYNAMIC PRICING AND HUMAN RESOURCE ANALYSIS FOR A GUEST HOUSE



BUSINESS DATA MANAGEMENT PROJECT

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ORGANIZATION BACKGROUND

- Business: Garjiya Homestay – small, family-run guest house
- Location: Near Jim Corbett National Park, Ramnagar, Uttarakhand
- Established: 2022 by Mr. Gautam Rawat
- Setup: 6 rooms, 3 staff members
- Services: Wi-Fi, parking, group meal pre-orders
- Model: Seasonal B2C – high tourist inflow in peak season, low occupancy off-season

PROBLEM STATEMENT

- Revenue Instability
 1. No data-driven pricing model
 2. Static & negotiable rates → loss of potential revenue

- High Employee Turnover
 1. Small 3-member team with frequent exits
 2. Poor shift scheduling, static wages, and no growth opportunities

DATA OVERVIEW

Booking Dataset

This dataset was created by compiling daily guest records from the logbooks of 1 year. It captures booking details, stay patterns, and revenue metrics.

- Guest details → Name, ID, Type (New/Repeat)
- Stay details → Check-in/Out, Room Type (AC/Non-AC), Group Size
- Pricing → Base Price, Final Price, Bargaining (Y/N/S), Season
- Derived → Total Nights, Occupancy %, Total Revenue

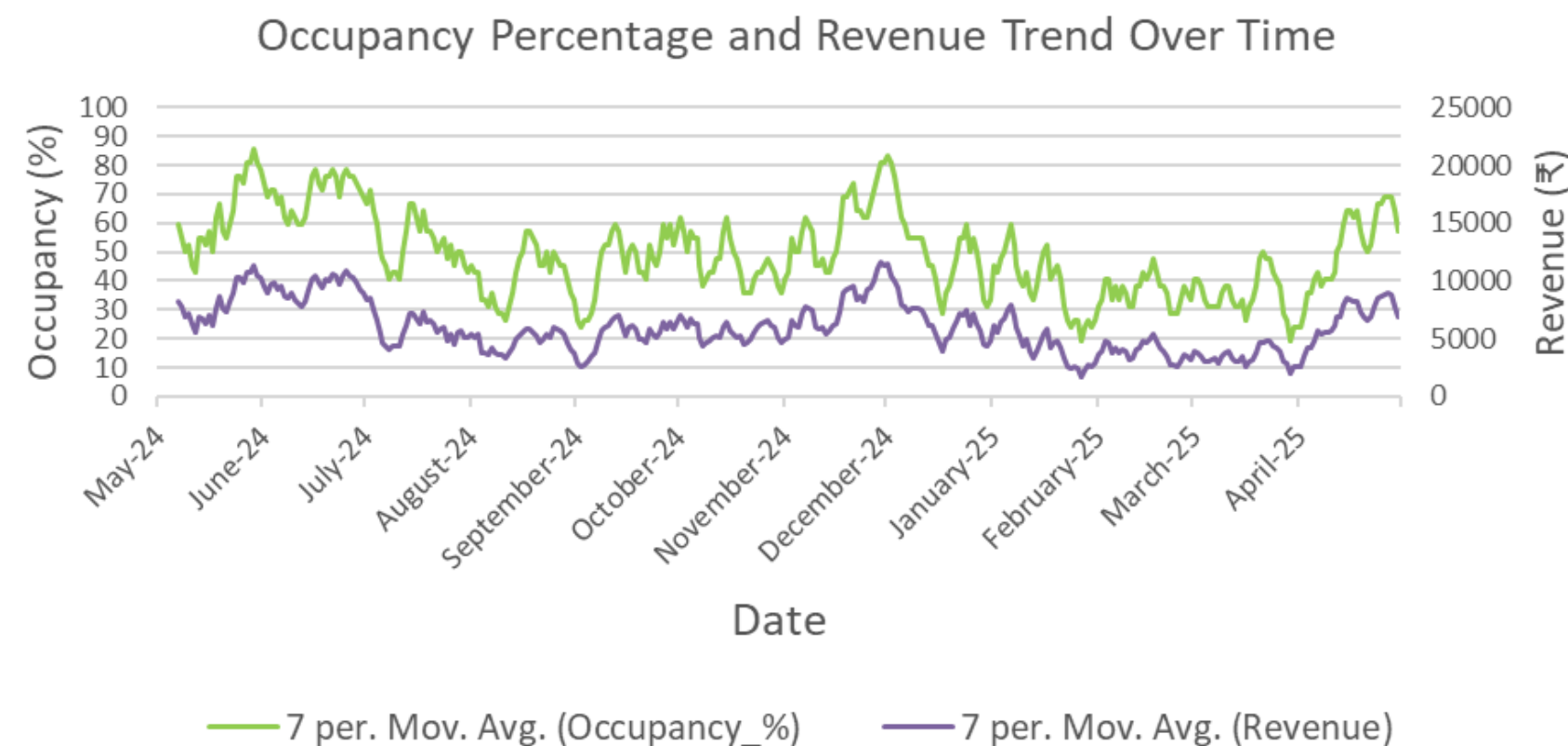
Employee Dataset

This dataset was created through in-person interviews with the guest house owner and manager. It captures employee profiles, work details, and satisfaction levels.

- Employee Details → ID, Name, Role, Department
- Work & Compensation → Wage per Month, Tenure
- Satisfaction → Job Satisfaction Score, Management Feedback
- Exit Data → Exit Reasons, Exit Status (Active/Resigned/Deceased)

RESULTS AND FINDINGS

- Peak Occupancy: >90% in June & Dec (vacation & tourism rush).
- Revenue Mismatch: High occupancy ≠ high revenue (June → discounts/bargaining cut earnings).
- Off-Season Dip: Aug-Sep showed sharp fall in both occupancy & revenue.
- Late-Season Boost: Mar-Apr revenue rose despite moderate occupancy (upselling/pricing success).

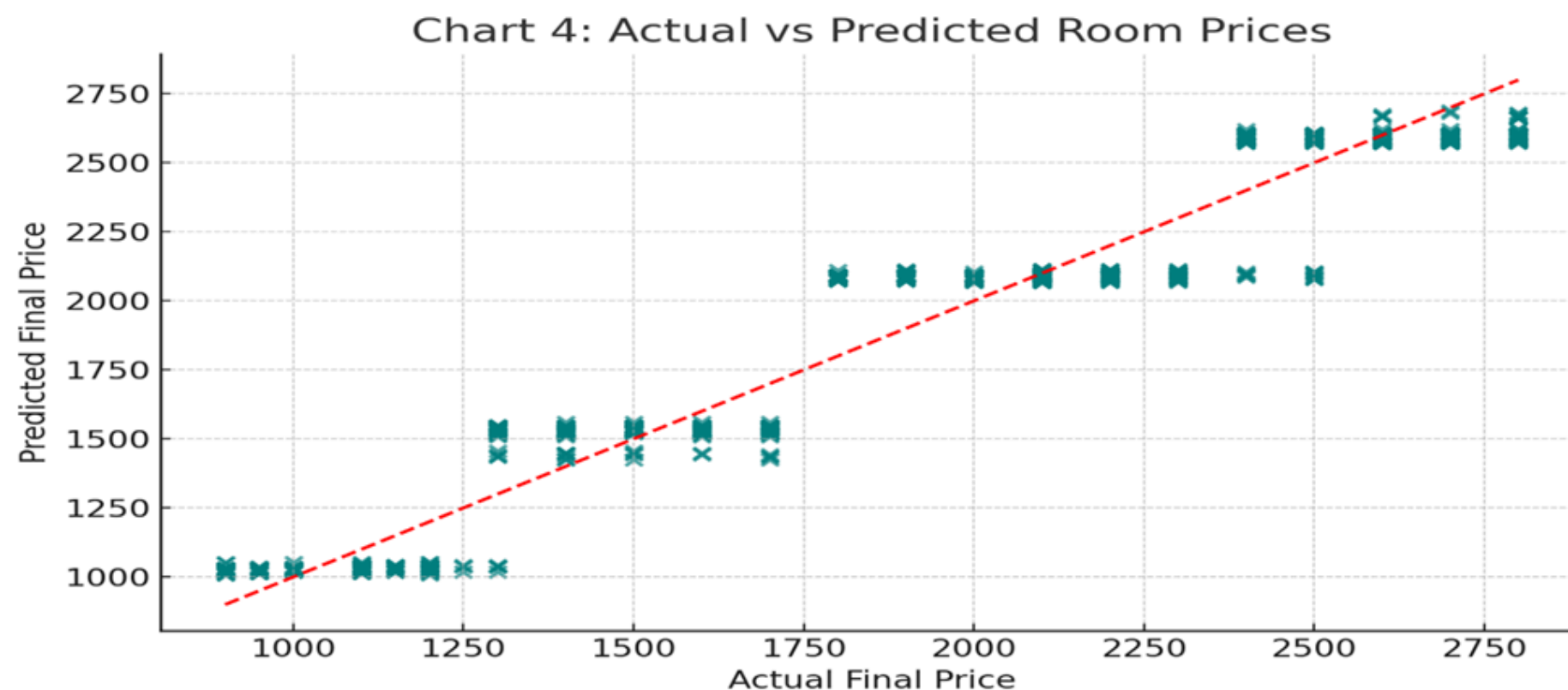


Strategic Actions

- Apply dynamic pricing in peak months to maximize earnings.
- Use bundles & upgrades in mid-occupancy periods.
- Offer discounts/travel tie-ups during off-season.
- Avoid excessive bargaining → focus on revenue per room.

RESULTS AND FINDINGS

- High Accuracy: $R^2 = 0.93 \rightarrow$ model explains 93% variation in final prices.
- Low Error: RMSE = ₹150.43 on ₹1200-₹3000 range \rightarrow highly reliable.
- Good Fit: Most points cluster near ideal line \rightarrow model captures core pricing logic well.
- Underprediction Zone: Slight dip in ₹1600-₹2100 range \rightarrow due to manual bargaining/discounts.
- Revenue Gain Potential: In 481 bookings, model-based pricing could add ₹65,560 \rightarrow total revenue ₹9.5 lakh.

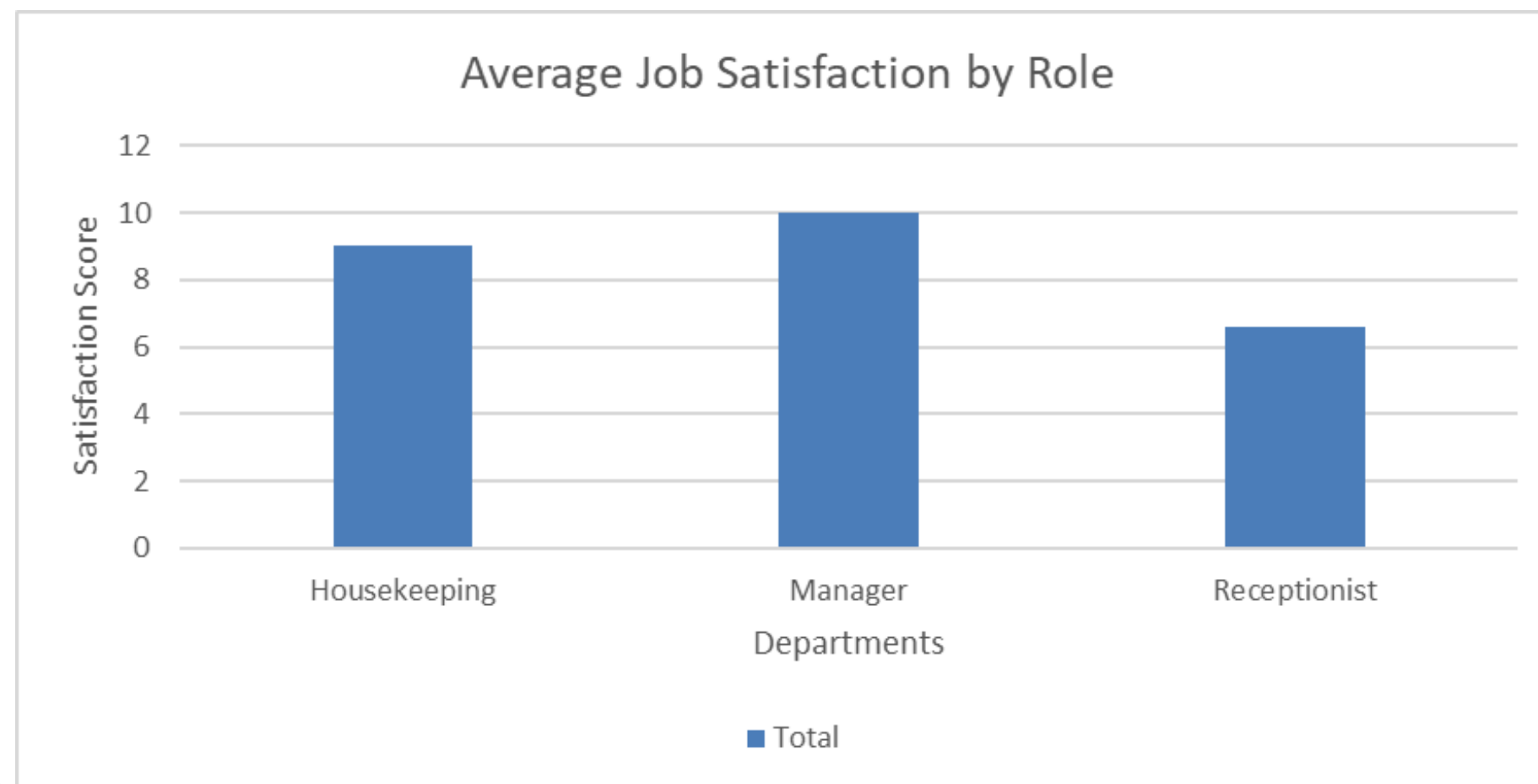


Strategic Actions

- Deploy for Dynamic Pricing: Integrate the model into the booking system to suggest optimal rates.
- Incorporate Broader Data Signals: Leverage competitor pricing, customer sentiment, seasonality, and weekday/weekend effects for higher accuracy.
- Ensure Scalable Implementation: Start with an Excel/Python prototype, then gradually integrate into guest house's management system for automation.

RESULTS AND FINDINGS

- Lowest Satisfaction: Receptionists scored only 6.3/10 → risk to guest experience.
- High Satisfaction: Managers (10/10) and Housekeeping (9/10) report strong morale.
- Role Gap: Sharp contrast highlights inequality in workload, pay, and recognition.
- Root Causes: Receptionist issues include long shifts, static salaries, poor communication & lack of feedback.



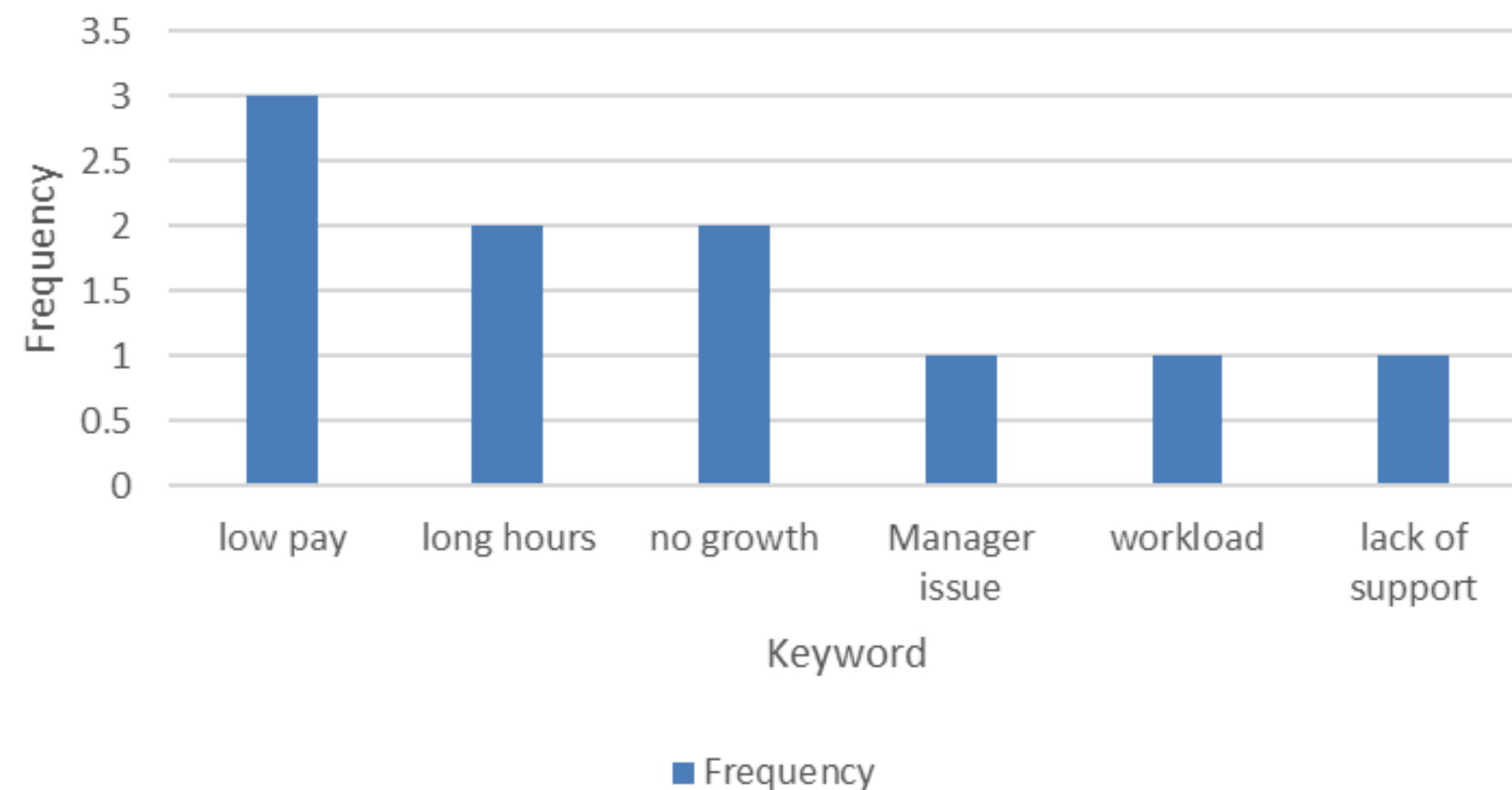
Strategic Actions

- Improve Frontline Retention: Flexible shifts, pay hikes, performance incentives.
- Training & Mentorship: Regular feedback, skill development, and clear career paths.
- Continuous Monitoring: Quarterly satisfaction surveys for early issue detection.
- Role-Based Equity: Ensure balanced workload & appreciation across roles.

RESULTS AND FINDINGS

- Top 3 Resignation Drivers: Low pay (3 mentions), Long working hours (2 mentions), No career growth (2 mentions)
- Other Issues: Managerial communication gaps, high workload, and lack of support.
- Pattern Match: Concerns align with receptionist dissatisfaction trends (see Job Satisfaction chart).

Common Keywords in Exit Interviews



Strategic Actions

- Career Progression: Clear growth pathways, promotions, and skill-based training.
- Compensation & Recognition: Incremental pay, bonuses, and recognition programs.
- Work-Life Balance: Adjust shifts, reduce overwork through better staffing.
- Formal HR Feedback Loop: Document and review exit data quarterly to track improvement.

CONCLUSION

The guest house shows strong seasonal demand but loses revenue due to manual and inconsistent pricing. A dynamic pricing model ($R^2 = 0.93$) can recover significant revenue while improving efficiency. On the HR side, low satisfaction among frontline staff signals risks of attrition. Addressing pay, workload, and communication is essential. Balancing data-driven pricing with employee engagement will ensure higher profitability and sustainable growth.

THANK YOU