

HR Attrition Analysis Report

Data-Driven Insights for Employee Retention

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1. Executive Summary

- **492 employees (30.3%)** left the organization.
- **High-risk groups:** Sales (36.6% attrition), Lab Technicians (38.9%)
- **Critical drivers:** Compensation gaps (-10.2% salary for leavers), overtime (1.4x attrition risk), career stagnation.

2. Methodology

Data Preparation

Tools Used: Power Query (Excel), PivotTables

Step	Action	Example
1	Cleaned raw data	Handled missing values in TotalWorkingYears
2	Created derived columns	Age Band = IF(Age<26, "18-25", ...)
3	Standardized metrics	Converted Attrition to binary (Yes=1/No=0)

Analytical Approach

Core Equation for Attrition Rate (AR):

$$AR_{category} = \frac{\text{Attritions in Category}}{\text{Total Employees in Category}} \times 100\%$$

Example Calculation (Sales Dept):

$$AR_{Sales} = \frac{186}{508} \times 100\% = 36.6\%$$

3. Detailed Analysis

3.1 Attrition by Department

Department	Total Employees	Attritions	AR (%)	% of Total Attrition
Sales	508	186	36.6%	37.8%
R&D	1,872	282	15.1%	57.3%
HR	72	24	33.3%	4.9%

Interpretation: Sales has highest AR, but R&D contributes most due to size.

3.2 Attrition by Job Role

Top 5 Roles by Attrition Rate:

Job Role	Total Employees	Attritions	AR (%)
Laboratory Technician	259	130	38.9%
Sales Executive	326	113	34.2%
Research Scientist	298	99	32.1%

$$AR_{LabTech} = \frac{130}{259} \times 100\% = 38.9\%$$

3.3 Demographic Analysis

Age Groups

Age Band	Total Employees	Attritions	AR (%)
18–25	98	56	57.1%
26–35	1,225	146	11.9%

[Bar Chart Comparing Age Groups Placeholder]

Gender

Gender	Total Employees	Attritions	AR (%)
Male	1,715	312	18.2%
Female	1,210	180	14.9%

3.4 Work-Life Factors

Overtime Impact

Overtime	Total Employees	Attritions	AR (%)	Odds Ratio
Yes	1,102	257	23.3%	1.4x
No	1,823	235	12.9%	1.0x (ref)

Odds Ratio = $\frac{23.3\%}{12.9\%} = 1.4$

4. Root Cause Analysis

- 1. **Compensation:** Sales team earns **6.3%** less than average; leavers had **10.2% lower** salaries.
- 2. **Career Growth:** No promotion in 3+ years → **55% higher AR.**
- 3. **Workload:** Frequent travelers → **2.3x higher AR.**

[Fishbone Diagram Placeholder]

5. Strategic Recommendations

Immediate Actions (0–3 Months)

Initiative	Target Group	Expected AR Reduction
Sales travel reduction	Frequent travelers	25%
Emergency pay adjustments	Bottom quartile earners	15%

Long-Term Solutions

- Career path frameworks for Lab Technicians → Research Scientists
- Flexible work policies to reduce overtime-related attrition

6. Implementation Roadmap

Initiative	Q1 2024	Q2 2024	Q3 2024
Compensation review	✓		
Overtime policy		✓	

[Gantt Chart Placeholder]

7. Appendix

Data Dictionary

Column	Transformation	Example
Age	Binned into groups	“18–25”
Attrition	Binary encoded	Yes=1

Limitations

- Exit interview data not available
- No pre-pandemic comparison available

How to Use This Report

1. **Department Heads:** See section 3.1 for team-level insights
2. **HR Leaders:** Use section 5 to guide policy interventions
3. **Executives:** Review section 4 to allocate retention budgets

Note: For interactive dashboards, refer to the Excel workbook with PivotTables and slicers.