

Power BI Dashboard – Technical Documentation

1. Overview

Dashboard Name: HR analytical dashboard

Purpose: Analyze HR performance and employee satisfaction data

Primary Data Subject: Employees, departments, education levels, satisfaction and rating levels

2. Data Sources

- All data loaded via **CSV files**
 - Power Query used to clean and transform data
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3. Data Model

Dimension Tables:

- **DimEducationLevel:** Contains EducationLevelID, EducationLevel
- **DimRatingLevel:** Contains RatingID, RatingLevel
- **DimSatisfiedLevel:** Contains SatisfactionID, SatisfactionLevel
- **DimDepartment:** Contains DepartmentID, Department
- **DimStates:** Contains State, Latitude, Longitude
- **DimEmployee:** Complex table with employee personal, job, and demographic data.

Fact Table:

- **PerformanceRatings:**
 - Joined with DimEmployee multiple times to extract:
 - Department, State, Education, HireDate, and Salary
 - Multiple nested joins and expand steps
 - Department type cast to Int64
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4. Transformations Summary

- **Type conversions** across all dimension tables
 - **Column renaming** DistanceFromHome (KM) → DistanceFromHome
 - **Department recoding:** "Sales" → 3, "HR" → 1, "Tech" → 2
 - **Merging and expanding** employee data into the fact table
 - **Creating Tables :** Department , States and Date
 - **Created Columns:** Attrition Reasons
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5. Page Descriptions

Overview Page:

Metrics:

- Total Employees (COUNT(DimEmployee[EmployeeID]))
- Average Years at Company (AVERAGE(DimEmployee[YearsAtCompany]))
- Average Salary (AVERAGE(DimEmployee[MonthlyIncome]))
- Attrition Rate (CALCULATE(COUNTROWS(PerformanceRatings),
PerformanceRatings[Attrition] = "Yes") / COUNTROWS(PerformanceRatings))

Visuals: Bar chart showing Employees by Job Role, Pie chart for Total Attrition, and line chart for Attrition Rate by Year.

Employee Demographics:

Metrics:

- Salary Range (AVG(PerformanceRatings[salary]))

Visuals: Treemap displaying Employee by Department & Job Role, Map showing Count of Employees by State, Pie charts for Gender Distribution and Marital Status.

Performance Analysis:

Metrics:

- High Performer Count (CALCULATE(COUNTROWS(PerformanceRatings), PerformanceRatings[PerformanceRating] >= 4))
- Average Manager Rating
- Average Self Rating

Visuals: Gauge charts for ratings, Bar chart for Performance Rating Distribution, Line chart comparing Training Opportunities Taken vs. Performance.

Job Satisfaction & Retention:

Metrics:

- Average Job Satisfaction
- Average Self-Rating

Visuals: Table of Employees with Low Satisfaction & High Attrition Risk, Bar chart for Job Satisfaction by Department, Line chart Years Since Last Promotion vs. Job Satisfaction.

Attrition Risks & Trends:

Metrics:

- Overtime Percentage (CALCULATE(COUNTROWS(DimEmployee), DimEmployee[OverTime] = "Yes") / Total Employees)
- Attrition Risk
Count(COUNTROWS(FILTER(DimEmployee, DimEmployee[YearsSinceLastPromotion] > 3 || DimEmployee[OverTime] = "Yes" || DimEmployee[YearsWithCurrManager] <= 1)))
- Tenure Rate (Average Tenure = AVERAGE(DimEmployee[YearsAtCompany]))
- Manager Change Rate (DIVIDE(COUNTROWS(FILTER(DimEmployee, DimEmployee[YearsWithCurrManager] <= 1)), [Total Employees], 0))

Visuals: Scatter plot for Years at Company vs. Salary, Attrition Rate by BusinessTravel, Line chart for Attrition Rate Over Time, Bar chart for Attrition Reasons.