HR Analytics Dashboard

Project Overview:

This HR analytics dashboard provides a comprehensive view of workforce-related metrics to support data-driven decision-making across the organization. The report covers key areas such as employee headcount, departmental performance, retention trends, compensation insights, and overall workforce distribution. Designed for HR leadership, the dashboard helps monitor hiring, attrition, and employee satisfaction, while enabling effective planning for talent management and organizational growth. The use of interactive visuals and DAX measures allows users to filter and analyse trends by department, job role, and tenure in real-time.

The data was sourced from CSV files and processed using Power Query for cleaning and shaping. DAX, measures were developed for KPIs

The final report includes 5 pages:

1. Executive Summary
2. Department performance
3. Retention Analysis
4. Compensation Insights
5. Workforce Overview

Tools used: Power BI Desktop, DAX, Power Query, Star Schema Modelling.

Page 1 - Executive Summary

Purpose:

This page provides a high-level snapshot of key HR metrics such as total employees, Retention rate, attrition rate, and gender diversity. It gives HR leaders a quick overview of the organization's workforce health and recent changes.

Key Performance Indicators (KPIs):

- Total Employee
- Retention Rate
- Attrition Rate
- Avg Satisfaction
- Male Employee
- Female Employee

DAX (Data Analysis Expressions)

1. **Total Employee**

```
Total Employees = COUNTROWS('HR Dataset')
```

2. Retention Rate:

```
Retention Rate =
VAR TotalEmployess = COUNTROWS(ALL('HR Dataset'))
VAR ResignedEmployee = CALCULATE(COUNTROWS('HR Dataset'),'HR Dataset'[Resigned] =
TRUE)

RETURN
([Total Employees] - ResignedEmployee) /[Total Employees]
```

3. Attrition Rate

```
Attrition Rate =
VAR TotalEmployees = COUNTROWS(ALL('HR Dataset'))
VAR ResignedEmployees = CALCULATE(COUNTROWS('HR Dataset'), 'HR Dataset'[Resigned] =
TRUE)
RETURN
ResignedEmployees / TotalEmployees
```

4. Avg Satisfaction

```
Avg Satisfaction = AVERAGE('HR Dataset'[Employee_Satisfaction_Score])
```

5. Male Employee:

```
Male = CALCULATE(COUNTROWS('HR Dataset'),'HR Dataset'[Gender]="Male")
```

6. Female Employee

```
Female = CALCULATE(COUNTROWS('HR Dataset'),'HR Dataset'[Gender]="Female")
```

7. Performance Score SVG BAR CHART

```
SVG Target Bar Chart =
VAR __Achievement = [Avg Peformance Score]  -- your actual performance measure
VAR __Target = 5   -- maximum target
VAR __BarLength = DIVIDE(__Achievement, __Target) * 100  -- bar length in SVG width (0 to
100)

VAR __Colour =
SWITCH(
   TRUE(),
   __Achievement < 2, "#FF0000",    // Red
   __Achievement < 3, "#F3727D",    // Yellow
   "#2DA683"                    // Green
```

```
)

RETURN
"data:image/svg+xml;utf8,
<svg width='120' height='17' viewBox='0 0 100 20' xmlns='http://www.w3.org/2000/svg'>
 <!-- Background bar -->
 <rect width='120' height='17' rx='5' fill='#C7C2C2'/>

 <!-- Achievement bar -->
 <rect width='" & __BarLength & "' height='17' rx='5' fill='" & __Colour & "'/>

 <!-- Target marker -->
 <line x1='80' y1='0' x2='80' y2='17' stroke='black' stroke-width='2'/>
</svg>"
```

Visual Used:

Funnel chart	Employee by Education level
Treemap	Employee by Department
Table Visual	Avg performance score by Department with SVG BAR CHART

Page 2 - Department Performance

Purpose:

This page evaluates the performance of each department by tracking key HR metrics such as Resignation, avg overtime, avg project hanlded, and average training hours. It helps identify high-performing departments and areas that may need attention in terms of staffing or engagement.

Key Performance Indicators (KPIs):

1. Resignation
2. Average overtime
3. Average Projects Handled
4. Average Training Hours

DAX (Data Analysis Expressions)

1. Resignation
   ```
   Resignation = CALCULATE(COUNTROWS('HR Dataset'),'HR Dataset'[Resigned]=TRUE)
   ```

2. Average Overtime

```
Avg overtime = CALCULATE(AVERAGE('HR Dataset'[Overtime_Hours]))
```

3. Average Project Handled

```
Avg overtime = CALCULATE(AVERAGE('HR Dataset'[Overtime_Hours]))
```

4. Average Training hours

```
Avg Training Hours = AVERAGE('HR Dataset'[Training_Hours])
```

5. Promotions

```
Promotions = CALCULATE(SUM('HR Dataset'[Promotions]))
```

Visual Used:

Line and clustered column chart	Avg Project Handled and Satisfaction by Department
Scatter Chart	Avg Training hours and Performance score by Department
Clustered Bar Chart	Department Promotions
Table Visual	Overall performance by Department

Page 3 - Retention Analysis

Purpose:

This page focuses on tracking employee retention across different time periods, departments, and roles. It helps HR understand how well the organization is retaining talent and identify patterns or areas with high employee turnover.

Key Performance Indicators (KPIs):

1. Retention Rate
2. Attrition Rate
3. Average years
4. Average Promotions

DAX (Data Analysis Expressions)

1. Average years

```
Average Years = AVERAGE('HR Dataset'[Years_At_Company])
```

2. Average Tenure

```
Avg Tenure. =
AVERAGEX(
   SUMMARIZE('HR Dataset', 'HR Dataset'[Department], "AverageTenure",
AVERAGE('HR Dataset'[Years_At_Company])),
```

```
    [AverageTenure]
)
```

Visual used:

Line and clustered column chart	Retention Rate and Attrition Rate by Job Title
Donut chart	Retention Rate by Education level
Bar chart	Average Tenure by Department
Area Chart	Retention Rate by years

Page 4 - Compensation Insights

Purpose:

This page provides an overview of employee compensation trends across departments, job roles, and experience levels. It helps HR and leadership assess pay equity, identify salary gaps, and ensure fair and competitive compensation strategies.

Key Performance Indicators (KPIs):

1. Average Monthly salary
2. Total overtime hours
3. Average Satisfaction
4. Sick Days

DAX (Data Analysis Expressions)

1. Average monthly salary
   ```
   Avg Monthly Salery = AVERAGE('HR Dataset'[Monthly_Salary])
   ```

2. Total Overtime Hours
   ```
   Total Overtime Hours = SUM('HR Dataset'[Overtime_Hours])
   ```

3. Total Sick days
   ```
   Sick Days = SUM('HR Dataset'[Sick_Days])
   ```

Visual used:

Stacked Bar chart	Avg monthly salary by job title
Pie Chart	Avg monthly salary by job title
Stacked column chart	Avg Promotions by Education level

Donut chart	Avg monthly salary by Education level
Area Chart	Avg monthly salary by Age slabbing

Page 5 - Workforce Overview

Purpose:

This page presents a consolidated view of the entire workforce using a detailed table. It includes key employee information such as department, job title, age, tenure, and gender—enabling HR teams to quickly explore and analyse the employee base in one place

Key Performance Indicators (KPIs):

1. Total Employee
2. Male
3. Female
4. Average Age

DAX (Data Analysis Expressions)

1. Average Age
   Avg Age = AVERAGE('HR Dataset'[Age])

Visual used:

1. **Table**
   Used Table visual for over all detail.