Project Objective

The objective of this project is to design and build a comprehensive **HR Analytics Dashboard** using Power BI based on the dataset provided in *HR_Analytics.csv*.

The dashboard should help HR managers and executives effectively monitor key workforce metrics such as:

- Employee performance
- Retention and resignation trends
- Department-level KPIs
- Engagement and satisfaction levels
- Overtime, training, and promotion patterns

To achieve this, the project requires the use of **Power Query** for data cleaning and transformation, **DAX measures** for KPI calculations, interactive **Power BI visuals**, and publishing/sharing the final solution through the **Power BI Online Service**.

The final deliverable must be a professional, interactive, and insightful HR dashboard that supports data-driven decision-making for HR leadership.

Dataset Details

The project uses a single dataset named **Employee_Performance** extracted from the *HR_Analytics.csv* file.

This table contains key employee information required to analyze performance, engagement, retention, and workforce demographics.

✔ The dataset includes the following columns:

- **Employment_ID:** Unique identifier for each employee.
- **Department:** Department in which the employee works.
- **Age:** Employee age.
- **Job Title:** Position or role within the organization.
- **Hire_Date:** Date when the employee joined the company.
- **Years_at_company:** Total tenure of the employee.
- **Education_Level:** Employee's education qualification.
- **Performance_Score:** Rating measuring employee performance.
- **Monthly_Salary:** Monthly compensation.
- **Work_Hours_per_Week:** Number of weekly working hours.
- **Project_Handled:** Number of projects completed/managed.
- **Overtime_Hours:** Amount of overtime worked.
- **Sick_Days:** Number of sick leaves taken.
- **Remote_Work_Frequency:** How often the employee works remotely.
- **Team_Size:** Number of team members under or with the employee.
- **Training_Hours:** Hours of training completed.
- **Promotions:** Total number of promotions.
- **Employee_Satisfaction_Score:** Score representing engagement/satisfaction.
- **Resigned (Yes/No):** Indicates whether the employee has left the company.

41,03

Average Age

100K

Total Employees

5. Required Visuals (Dashboard Layout Requirements)

To build an effective HR Analytics Dashboard, the following visuals must be included to help HR managers analyze employee trends and key performance metrics:

1. KPI Cards

- Total Employees
- Total Attrition
- Attrition Rate %
- Average Age
- Average Satisfaction Score

These KPIs provide a quick snapshot of overall workforce performance.

2. Employee Demographics

- **Age Group Distribution** → Column Chart or Bar Chart
- **Gender Split** → Donut/Pie Chart
- **Department Headcount** → Bar Chart

These visuals show the structure of the workforce.

3. Attrition Insights

- **Attrition by Department** → Bar Chart
- **Attrition by Age Group** → Column Chart
- **Attrition Over Time** → Line Chart

These visuals help identify which groups have the highest turnover.

4. Performance & Engagement Analysis

- **Satisfaction Score by Department** → Column Chart
- **Overtime Hours vs Satisfaction Score** → Scatter Plot
- **Sick Days by Department** → Bar Chart

These charts help understand employee well-being and engagement levels.

5. Department-Level KPI Table

A matrix/table including:

- Department
- Headcount
- Average Age
- Average Salary
- Attrition Count
- Attrition Rate

This helps compare performance across departments.

6. Slicers / Filters

Add interactive filters for:

- Department
- Gender
- Age Group
- Job Role
- Location
- Year / Month

These improve dashboard interactivity.

✅ 8. Power BI Features to Apply

To ensure the HR Analytics Dashboard is professional, interactive, and easy to use, the following Power BI features must be applied:

1. DAX for KPIs

Use DAX measures to calculate all major HR metrics such as:

- Attrition Rate
- Employee Count
- Average Salary
- Average Satisfaction
- Overtime Utilization
- Promotion Rate

These measures help build dynamic visuals across the report.

2. Custom Tooltips

Create tooltip pages to show detailed insights when users hover over:

- Department performance
- Employee satisfaction
- Attrition metrics

This improves drill-down storytelling without cluttering visuals.

3. Drillthrough Pages

Enable drillthrough for:

- Employee details
- Department-level breakdown

Users can right-click any visual and go to a deeper analysis page.

4. Bookmarks for Navigation

Use bookmarks to:

- Create custom navigation buttons
- Switch between views (Summary, Engagement, Retention)
- Show/Hide panels or filters

Gives the dashboard an app-like experience.

5. Conditional Formatting

Apply color rules to highlight:

- High or low performance scores
- High overtime
- High attrition departments
- Low satisfaction levels

This makes patterns more visible.

6. Sync Slicers

Use sync slicers across pages so user-selected filters (e.g., Department, Job Title) stay consistent on all pages.

7. Power Query Transformations

Use Power Query for:

- Renaming columns
- Creating calculated columns
- Cleaning null values
- Changing data types