POWER BI WORKFORCE DASHBOARD: HR METRICS FOR RETENTION, PRODUCTIVITY, AND HEADCOUNT ANALYSIS

1. Project Background and Objective

A mid-sized US-based technology company with ~1,200 employees needed a comprehensive HR analytics solution to support **data-driven workforce planning**. The HR leadership team wanted to move beyond static Excel files and gain a **real-time, drillable view of key HR indicators**.

Project Objective: Design an intuitive Power BI dashboard to track workforce size, attrition, hiring, and employee productivity across departments, locations, and roles.

2. Data Sources and Preparation

- **Employee Master Data:** From the internal HRIS (Workday export, monthly refresh)
- **Recruitment Logs:** Applicant tracking system (CSV format, weekly updates)
- **Exit Interview Results:** Manually maintained in Excel
- **Performance Ratings:** Stored in SharePoint list (quarterly updates)

Data Cleaning in Power Query:

- Merged historical and active employee records
- Removed duplicates and harmonized date formats
- Standardized department names and locations
- Created derived fields:
    - Tenure (Months)
    - Attrition_Flag
    - Avg_Performance_Score

3. Power BI Dashboard Design and Layout

Page 1: HR Overview

- **KPI Cards:**
    - Total Headcount

    - Attrition Rate
    - Active Open Positions
    - Average Tenure
- **Line Chart:** Monthly trend of headcount vs. hires vs. exits
- **Bar Chart:** Attrition by department with conditional formatting
- **Treemap:** Employee distribution by location

Page 2: Retention & Attrition Analysis

- **Slicer Filters:** Department, Job Role, Region, Age Band
- **Donut Chart:** Reasons for leaving (exit interviews)
- **Clustered Columns:** Attrition rate by tenure group
- **Scatter Plot:** Attrition vs. average performance by team

Page 3: Recruitment & Onboarding

- **Line + Area Chart:** Hires by month and offer acceptance rate
- **Funnel Chart:** Recruitment stages (Applications → Offers → Joins)
- **Bar Chart:** Avg. Time-to-Fill by department
- **Table:** New joiners list with key fields (auto-updated)

Page 4: Productivity & Performance

- **Gauge:** Average performance score vs. target
- **Heatmap:** Productivity score by manager and team
- **KPI Table:** % high performers, % low performers
- **Bookmark toggle:** Team-level vs. department-level view

4. DAX Measures Implemented

Metric	DAX Formula Example
Attrition Rate	DIVIDE([Voluntary Exits], [Avg Headcount], 0)
Avg. Tenure (Months)	AVERAGEX(Employees, DATEDIFF(HireDate, Today(), MONTH))
Offer Acceptance Rate	DIVIDE([Offers Accepted], [Offers Made], 0)

Time to Fill (Days)	AVERAGE(HireDate - RequisitionOpenDate)
High Performer %	DIVIDE([Rating 4+], [Total Rated Employees], 0)

5. Interactivity and Advanced Features

- **Drill-through:** From department summary to individual employee level
- **Bookmarks:** Switch between performance view and productivity view
- **Tooltip Pages:** Hover reveals attrition trend for selected team
- **RLS:** HRBP-level access control to limit visibility to assigned business units
- **Live Auto-Refresh:** Weekly refresh using Power BI Gateway from SharePoint and HRIS feeds

6. Deliverables Provided

- .pbix file with full documentation
- Deployed dashboard on Power BI Service with scheduled refresh and RLS
- HR reporting manual with visual guide (PDF)
- Excel export option for filtered results
- Training session for HR team on using and maintaining the dashboard

7. Insights and Impact

- Identified **2 departments with high attrition and low performance**, prompting leadership interventions
- Cut **manual HR reporting time** from ~12 hours/month to under 1 hour
- Improved **visibility into recruiting bottlenecks**, reducing average time-to-fill by 5 days
- Informed **quarterly talent reviews** with updated performance distribution metrics

8. Relevance to Industry and Academia

- **Corporate Use:** Applicable to HR, talent management, and operations teams in mid-to-large enterprises across tech, healthcare, and manufacturing

- **Academic Use:** Can be used as a teaching case in HR analytics, people analytics, or organizational behavior courses, especially in modules focused on BI applications in HRM