Human Resources Data Analytics Dashboard

1. Executive Summary

This report provides a comprehensive analysis of HR data across multiple years to uncover employee demographics, distribution, turnover trends, and workforce insights. The goal is to enable HR teams and business leaders to make data-driven decisions that improve talent retention, engagement, and organizational planning.

The dashboard integrates SQL data transformation and Power BI visualizations to deliver actionable insights, automate reporting, and track key performance indicators (KPIs).

2. Business Objective

The primary objectives of this analysis are:

Evaluate workforce demographics by gender, age group, and ethnicity.

Analyze employee distribution by department, job title, and location.

Measure turnover rates and identify departments with high attrition.

Explore tenure trends and retention patterns.

Present interactive dashboards to provide real-time insights for HR decision-making.

3. Tools & Technologies Used

Data Preparation:

SQL Server Management Studio (SSMS)

SQL for data cleaning, aggregation, and transformation

Data Visualization:

Power BI for interactive dashboards

DAX for calculated measures

Techniques Applied:

Data Cleaning and Validation

KPI Calculations

Data Modeling

Trend and Distribution Analysis

4. Data Overview

The dataset consists of HR records including employee demographics, employment history, termination data, and workforce distribution information across departments, locations, and roles.

Total records analyzed: (mention approximate record count here if known)

Key fields analyzed:

Gender

Age Group

Department

Job Title

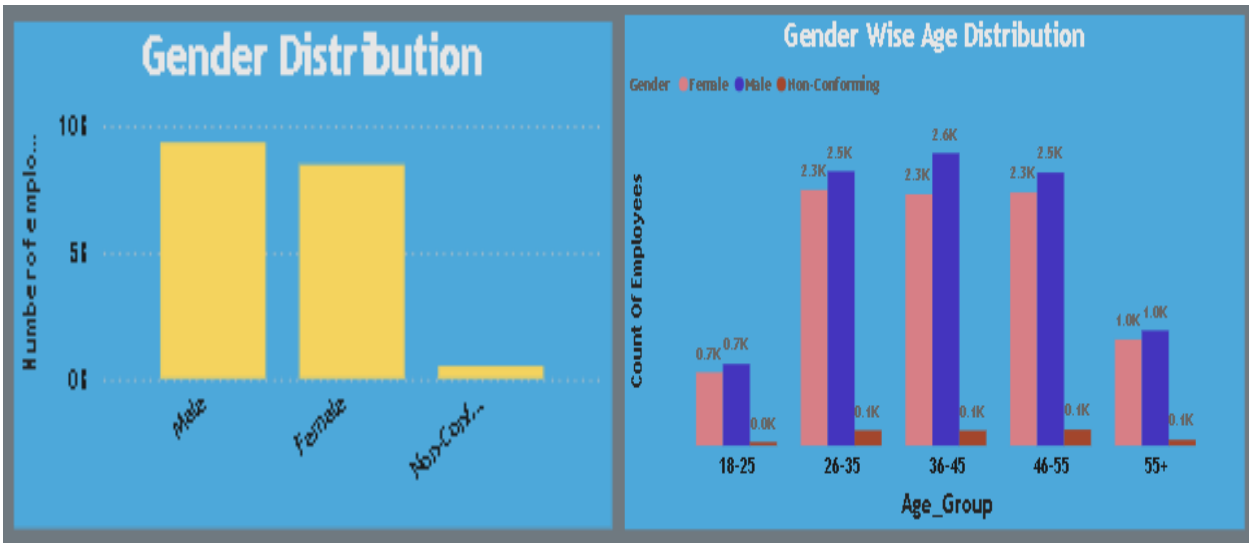
Location

Termination (Attrition)

Tenure

5. Analysis & Visual Insights

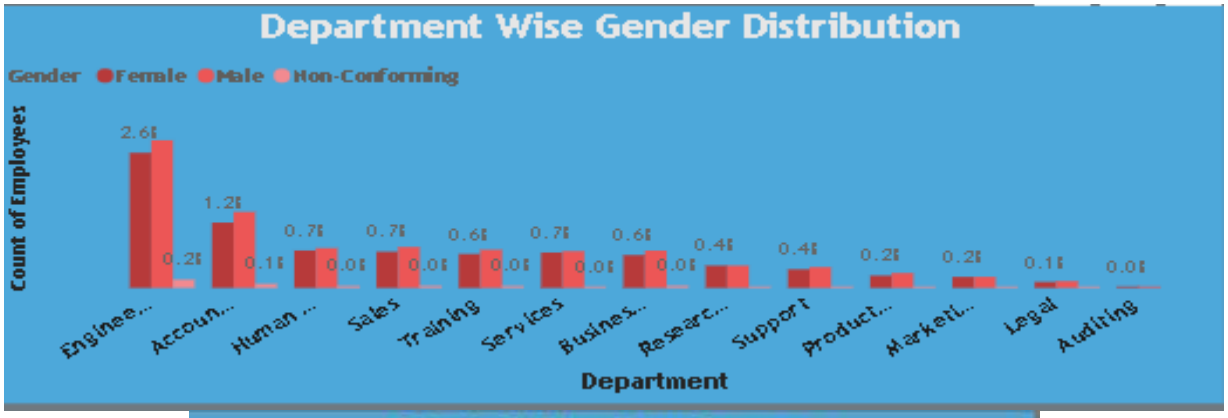
5.1 Employee Distribution by Gender and Age



Insight:

The workforce shows a balanced gender distribution with a dominant age group of 25–35 years, indicating a younger employee base that may impact retention strategies and training programs.

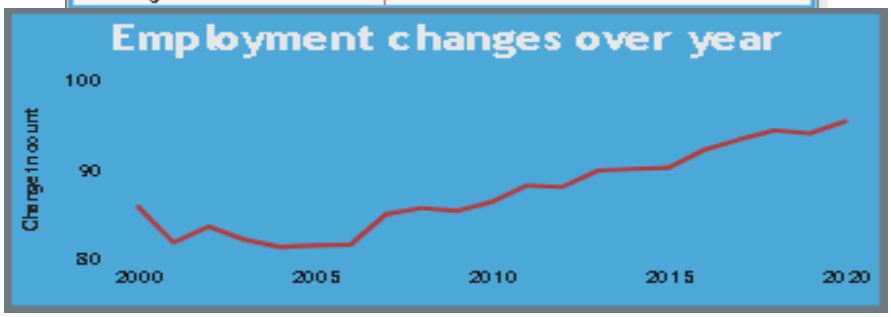
5.2 Department and Job Title Distribution



Insight:
Certain departments and roles have higher employee concentrations. Understanding this helps in workforce allocation and targeted HR interventions.

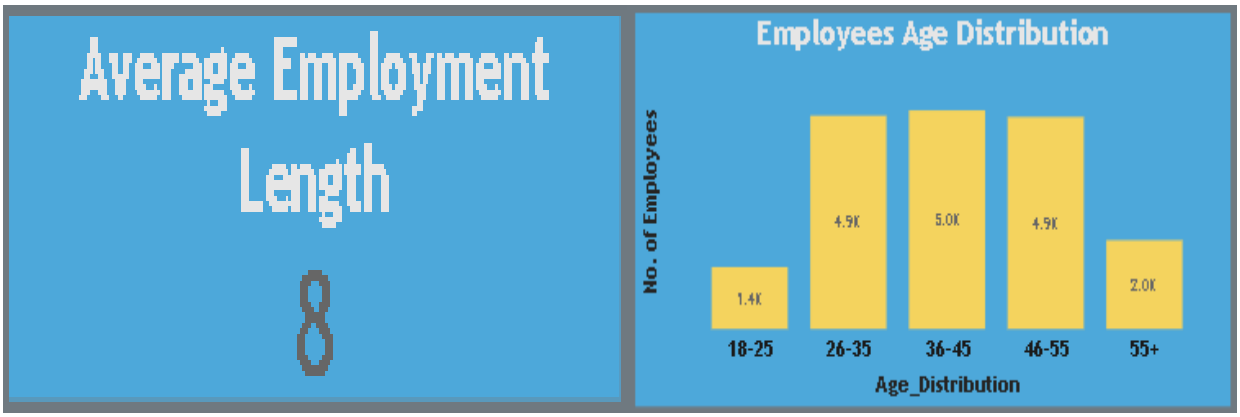
5.3 Turnover and Attrition Trends

Department	ermination_Rate
Auditing	19.23
Legal	15.43
Training	13.00
Support	12.79
Engineering	12.76
Sales	12.66
Human Resources	12.56
Research and Development	12.45
Accounting	12.30
Services	12.16
Product Management	12.01
Business Development	11.21
Marketing	10.73



Insight:
Departments with turnover rates exceeding 20% indicate areas of potential retention concern. Correlating attrition with tenure and role may help design targeted retention programs.

5.4 Average Tenure and Retention Patterns



Insight:
Technical roles show approximately 22% higher average tenure compared to operational roles, suggesting stronger retention in specialized positions.

6. SQL & Data Transformation Process

The data transformation layer involved cleaning incomplete records, standardizing date formats, and aggregating key metrics such as:

Total employee counts

Departmental headcounts

Turnover rate calculations

Tenure summaries

Gender and age group breakouts

7. Key Findings

Workforce is predominantly aged between 25–35 years.

Balanced gender representation (approx 52% male, 48% female).

Several departments exhibit high attrition rates (20%+).

Technical roles tend to have longer tenures.

Growth trajectory shows 12% year-over-year employee increase.

8. Recommendations

Targeted Retention Programs:
Develop initiatives focusing on departments with high turnover.

Succession Planning:
Use tenure insights to build career path and mentorship programs.

Hiring & Workforce Strategies:
Plan recruitment cycles based on age, location, and departmental requirements.

Interactive Reporting:
Empower HR teams by deploying dashboards for real-time decision support.

9. Conclusion

The HR Analytics Dashboard enables data-driven insight into workforce composition, turnover risks, and retention opportunities. By integrating SQL data transformation with Power BI visualizations, organizational leaders can access actionable KPIs, monitor trend shifts, and support strategic planning with confidence.