HR Analytics and Employee Attendance Insights Project

Introduction

In the current corporate environment, data-driven decision-making has become essential, particularly in managing human resources efficiently. This project focuses on integrating HR analytics with employee attendance data to uncover insights that support better workforce planning, performance tracking, and employee engagement.

Abstract

This project leverages Power BI to build an interactive HR analytics dashboard using masked employee data from Atliq Industries. Additionally, an Excel-based attendance sheet for the year 2022–2023 was utilized to analyze trends in employee punctuality and absenteeism. By combining visualization tools and spreadsheet analysis, the project offers a unified view of workforce dynamics, enabling HR teams to make informed decisions that enhance productivity and employee satisfaction.

Tools Used

- Microsoft Power BI: For data modeling, interactive dashboards, and visual analytics.

- Microsoft Excel: For raw attendance data processing and transformation.

- Power Query: For cleaning and transforming HR data.

- DAX (Data Analysis Expressions): For calculated measures and KPIs in Power BI.

Steps Involved in Building the Project

1. Data Understanding and Cleaning

- Reviewed and cleaned masked HR datasets within Power BI.

- Checked for nulls, duplicates, and formatting inconsistencies.

- Attendance Excel data was standardized and structured by employee ID and date.

2. Data Integration

- Merged HR data with attendance records using unique employee identifiers.

- Created relationships between employee demographics, performance, and attendance.

3. Dashboard Development

- Designed multiple Power BI pages covering:

- Headcount Overview: Gender ratio, department distribution, and attrition trends.

- Performance Insights: Correlations between training, tenure, and appraisal scores.

- Attendance Monitoring: Monthly absence rates, late arrivals, and leave patterns.

- Used slicers and filters for dynamic exploration (e.g., by department, year, job role).

4. KPI Calculation and Interpretation

- Created DAX measures for absenteeism rate, attrition %, and average performance scores.

- Visualized KPIs using cards, bar charts, and trend lines.

5. Validation and Storytelling

- Validated calculations against source files.

- Structured dashboard flow to support decision-makers with intuitive navigation and clear narratives.

Conclusion

This project successfully demonstrates the synergy between HR analytics and attendance tracking. By integrating Power BI with Excel data sources, it provides a 360-degree view of employee behavior, performance, and attendance. The insights derived can guide HR policies, identify workforce risks, and boost organizational effectiveness. Future improvements could include integrating real-time data sources or predictive modeling for attrition and absenteeism forecasting.