**HR-Employee-Attrition – Shalin Gamre**

**Employee Attrition Analysis and Prediction**

Welcome to our project on Employee Attrition Analysis and Prediction for Acme Corporation. In this project, we aim to uncover insights into the factors influencing the employee turnover and predict future attrition trends using data analytics and visualization techniques. By leveraging historical data on employee demographics, job satisfaction and performance metrics, we’ve created interactive dashboards in Tableau to visualize turnover patterns, identify areas of concern, and provide actionable insights for retention strategies. Let’s explore how we’ve analysed the data and created visualizations to help Acme Corporation address their employee turnover challenges effectively.

**Problem Statement:**

Acme Corporation, a leading tech company, is facing a significant challenge with employee turnover. The HR department is concerned about the increasing rate of attrition, as it negatively impacts team dynamics, project continuity, and overall company morale. To address this issue, Acme Corporation wants to leverage data analytics and machine learning to understand the factors influencing employee turnover and predict which employees are likely to leave in the near future.

**Execution:**

**1.Data Exploration and Visualization:**

• I started by exploring the provided dataset for Acme Corporation, which contained information on employee demographics, job satisfaction, performance metrics, and turnover status over the past years.

• Using Tableau, I created interactive dashboards to visualize trends and patterns in employee turnover.

• I utilized various visualization techniques such as bar charts, line charts, and scatter plots to present key insights into factors influencing employee attrition.

**2.Identifying Departments, Roles, and Projects with High Turnover Rates:**

• I analysed the turnover rates by department, job role, and specific projects to identify areas with the highest attrition.

• By creating bar charts and scatter plots, I visually represented turnover rates across different departments, roles and projects, allowing Acme Corporation of pinpoint areas of concern.

**3.Building Tableau Dashboards:**

• I connected Tableau to the provided dataset for Acme Corporation and explored the data using its intuitive drag-and-drop interface.

• After cleaning the data and creating the calculated fields for additional metrics, I designed a dashboard layout that included multiple visualizations for comprehensive analysis.

**4.Calculating Employee Turnover:**

• To calculate employee tenure, I utilized “Years At Company” and “Years In Current Role” fields provided in the dataset.

• I created a calculated field in Tableau to subtract the “Years At Company” from “Years in Current Role” to determine the tenure of each employee in their current role.

**5.Creating Visualizations for Turnovers by Demographic Factors:**

• To visualize turnover by Demographic factors such as age, gender, education, and marital status, I created bar charts and pie charts.

• I used Tableau’s filtering options to allow users to interactively explore turnover trends based on different demographic characteristics.

**6.Key Metrics and Visualization:**

• I calculated key metrics such as turnover rate, average job satisfaction, and performance ratings using Tableau’s calculated fields.

• These metrics were utilized using KPIs (Key Performance Indicators) and bar charts to provide a quick overview of employee attrition and satisfaction levels.

**7.Descriptive Analysis:**

• For descriptive analysis, I generated reports showcasing reason for attrition based on job satisfaction, work-life balance, and relationship satisfaction.

• I used line charts and bubble charts in Tableau to visualize turnover patterns across different dimensions and identify underlying factors contributing to employee attrition.

**8.Real-Time Integration:**

• I explored Tableau’s option for real-time data connections and periodic updates to keep the dashboard current.

• By connecting to live data sources or scheduling periodic updates, I ensured that the dashboard provided up-to-date insights into employee turnover and related metrics.

**9.User Interaction:**

• To enhance user interaction, I implemented filters, actions, and tooltips in the Tableau dashboard.

• Users can interactively explore the data by selecting specific departments, roles, or demographic categories, and the visualizations dynamically update to reflect their selections.

In summary, our analysis has provided valuable insights into employee attrition patterns and potential drivers within Acme Corporation. By visualizing turnover trends, identifying key factors, and exploring predictive analysis, we’ve equipped Acme Corporation with actionable information to improve employee retention strategies and foster a positive work environment. Moving forward, we remain committed to monitoring trends, refining our models, and collaborating with Acme Corporation to implement targeted interventions that enhance employee satisfaction and loyalty.