HR Management System Analysis

Background:

Our organization has implemented a comprehensive Human Resource Management System (HRMS) to centralize employee data and streamline HR processes. The HR dataset includes critical information such as employee demographics, employment history, and departmental details.

Dataset:

The HRMS database has a table named hr with the following fields:

Employee ID, First Name, Last Name, Birthdate, Gender, Race/Ethnicity, Department,

Job Title, Location, Hire Date, Termination Date, Location City, Location State, Age

Key Questions for Analysis:

1. **Gender Breakdown:** Investigate the distribution of genders among employees in the company.
2. **Race/Ethnicity Breakdown:** Explore the diversity and distribution of race/ethnicity among the workforce.
3. **Age Distribution:** Analyze the age distribution of employees to understand the workforce's demographic composition.
4. **Headquarters vs. Remote Locations:** Compare the number of employees working at the company's headquarters versus those at remote locations.
5. **Average Length of Employment for Terminated Employees:** Calculate and analyze the average length of employment for employees who have been terminated.
6. **Gender Distribution Across Departments and Job Titles:** Evaluate how gender is distributed across different departments and job titles.
7. **Distribution of Job Titles:** Examine the variety and distribution of job titles within the organization.
8. **Department with the Highest Turnover Rate:** Identify the department with the highest turnover rate based on termination data.
9. **Distribution of Employees Across Locations by State:** Break down the distribution of employees across different states to understand geographic representation.
10. **Employee Count Changes Over Time:** Investigate changes in the company's employee count over time based on hire and termination dates.
11. **Tenure Distribution for Each Department:** Analyze the distribution of employee tenures within each department.

Analytical Approach:

- **Data Preparation:** Ensure data integrity and cleanliness by addressing any missing or inconsistent entries.
- **Exploratory Data Analysis:** Conduct exploratory data analysis to understand the basic statistics and distributions.
- **Geospatial Analysis:** Utilize geospatial analysis to visualize the distribution of employees across different locations.
- **Time Series Analysis:** Apply time series analysis to track changes in employee count over time.

- **Comparative Analysis:** Compare and contrast key metrics, such as gender distribution, across different dimensions like departments and job titles.
- **Turnover Rate Calculation:** Calculate turnover rates for each department to identify areas of concern.
- **Interactive Dashboards:** Create interactive dashboards that allow stakeholders to dynamically explore and gain insights.
- **Descriptive Insights:** Summarize findings, providing descriptive insights to guide HR strategies and decision-making.

This Power BI case study aims to leverage the HRMS data to derive actionable insights, facilitate data-driven decision-making, and optimize HR processes within the organization.