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Experiment no: 06

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Data Visualization using Power Bi

AIM:

To visualize and analyse employee data using Power BI by connecting data sources, transforming data, and creating an interactive dashboard with key insights.

Dataset Description:

The dataset contains records of employees, covering demographic, job, and performance details.
Key columns include:

- Employee_ID: Unique identifier
- Department, Job_Title: Work and role details
- Gender, Age, Education_Level: Demographic info
- Monthly_Salary, Years_At_Company: Employment details
- Performance_Score, Employee_Satisfaction_Score: Evaluation metrics
- Remote_Work_Frequency, Promotions, Resigned: Work behavior indicators

Total attributes: 19 columns, each providing insights into workforce trends, performance, and satisfaction.

Process:

1. Data Preparation
   - Imported the CSV dataset into Power BI Desktop.
   - Used Power Query Editor to:
     - Correct data types (e.g., dates, numeric fields).
     - Remove unnecessary columns.
     - Promote headers and ensure data consistency.

2. Measures and Calculations

Created calculated metrics:

- Average Salary
- Average Satisfaction Score
- Resignation Rate

Used these as KPIs in the dashboard.

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3. Visualizations Created

Six visuals were built to display employee insights:

1. Bar Chart – Employees by Monthly Salary
2. Line Chart – Employee Count by Year
3. Scatter Plot – Satisfaction vs. Performance
4. Column Chart – Average Salary by Job Title
5. Donut Chart – Remote Work Frequency
6. Column Chart – Department by Gender

4. Dashboard Design

- Professional dark background with gradient style.
- Consistent color palette for clarity.
- Added slicers and filters for interactivity.
- Combined visuals to highlight workforce diversity, job trends, and performance patterns.

Output:

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Observation:
The Power BI dashboard effectively visualizes employee data, revealing trends in salary, job roles, satisfaction, and gender distribution. It demonstrates how visual analytics enhances HR insights and decision-making.

Result:
A complete Power BI dashboard was created using an employee dataset, including six visuals and key KPIs, providing meaningful insights into workforce structure and performance.