***IBM HR Analytics Project Report***

**1. Project Title**

**HR Analytics Dashboard: Employee Attrition Analysis – IBM India**

**2. Objective**

The primary objective of this project is to analyze the workforce data of IBM India to identify key factors influencing employee attrition. By leveraging Power BI, the project aims to visualize trends, uncover patterns, and provide data-driven insights to support HR decision-making and retention strategies.

**3. Data Source**

The analysis is based on the IBM HR DATA.csv dataset, which includes employee information such as:

* Age, Gender, Department
* Job Role, Education, and Work Experience
* Monthly Income, Job Satisfaction
* Attrition status (Yes/No)
* Performance Rating, Overtime, and more

The data was visualized using **Power BI** in the file IBM INDIA.pbix.

**4. Tools and Technologies Used**

* **Power BI** for interactive dashboards
* **Microsoft Excel/CSV** for raw data storage and preliminary data cleaning
* **Data Modeling** using Power BI’s data transformation tools (Power Query)

**5. Key Dashboards and Visualizations**

The Power BI report includes the following dashboards:

**a. Overview Dashboard**

* Total number of employees
* Attrition rate (overall and by gender)
* Distribution of employees by department and job role

**b. Attrition Analysis**

* Attrition rate by age group, job role, and department
* Monthly income comparison between attrited and retained employees
* Impact of overtime on attrition

**c. Job Satisfaction and Performance**

* Correlation between job satisfaction and attrition
* Performance rating analysis
* Environment satisfaction levels

**d. Demographic Analysis**

* Age distribution
* Gender-wise breakdown of key metrics
* Marital status and its impact on attrition

**6. Key Findings**

* **Overtime** has a significant correlation with higher attrition rates.
* **Job roles** such as Sales Executive and Laboratory Technician show higher attrition compared to other roles.
* Employees with **lower job satisfaction and environment satisfaction** are more likely to leave.
* **Younger employees (age < 30)** and those with **shorter tenure** show a higher tendency to leave.
* **Attrition is relatively higher among single employees**.

**7. Business Recommendations**

* Implement flexible work schedules or reduce overtime in high-burden roles.
* Create targeted retention programs for high-attrition job roles.
* Improve work environment and job satisfaction through internal surveys and feedback.
* Offer career development opportunities to younger employees to increase engagement.

**8. Conclusion**

The HR analytics dashboard provides a comprehensive view of attrition trends and key influencing factors. By focusing on employee well-being, satisfaction, and workload balance, IBM India can develop targeted strategies to reduce attrition and improve employee retention.