**HR Employee Analysis Report **

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**1. Introduction**

**Employee attrition is a major challenge for organizations aiming to retain talent and reduce recruitment costs. Through this project, we analyze the main causes behind employee resignations by using an interactive dashboard built in Power BI. The goal is to uncover hidden patterns, identify risk factors, and suggest strategies to minimize attrition.**

**2. Abstract**

**In this project, the IBM HR Employee Attrition dataset was analyze to study employee turnover trends. After cleaning and preparing the data, an interactive Power BI dashboard was developed featuring key KPIs, slicers, and visualizations. These visualizations explored attrition rates across departments, job roles, overtime workers, and tenure years. The analysis revealed important insights such as the impact of overtime, department-wise attrition patterns, and the critical tenure years where attrition spikes.**

**3. Tools Used**

| **Tool** | **Purpose** |
| --- | --- |
| **Power BI** | **Data cleaning, dashboard creation, insights.** |
| **Excel** | **Initial data exploration** |

**4. Steps Involved in Building the Project**

1. **Loaded the IBM HR dataset into Power BI.**
2. **Performed data cleaning:**
   * **Checked data types and missing values.**
   * **Removed unnecessary columns.**
   * **Created calculated columns like Age Group (optional).**
3. **Designed a custom green-black themed dashboard.**
4. **Created KPI cards to show:**
   * **Attrition Rate**
   * **Total Employees**
   * **Employees Who Left**
5. **Built key visualizations:**
   * **Bar Chart: Attrition by Job Role**
   * **Bar Chart: Attrition by Department**
   * **Line Chart: Attrition over Years at Company**
   * **Column Chart: Attrition by Over Time**
6. **Added slicers for dynamic filtering by:**
   * **Gender**
   * **Job Role**
   * **Department**
   * **Over Time**
7. **Derived key insights and recommendations based on visualization patterns.**
8. **Took final screenshots for project documentation.**

**5. Conclusion**

**The analysis revealed that attrition is highest among Sales Executives and Research Scientists, and employees working overtime are more prone to resign. Most resignations happen within the first 5–10 years of tenure, indicating mid-career retention challenges. The interactive dashboard enables HR teams to filter and drill down to specific departments or roles, supporting targeted retention strategies.  
Implementing better work-life balance policies, addressing overtime issues, and focusing on early-career employee engagement could significantly reduce future attrition rates.**