**HR Analytics Dashboard Documentation**

**Project Title:**

**HR Analytics Dashboard Using Power BI**

**About the Project:**

This HR Analytics Dashboard is designed to provide comprehensive insights into employee attrition patterns within an organization. By leveraging Power BI for data visualization, it enables HR managers and decision-makers to analyze key factors influencing employee turnover, including demographic trends, job satisfaction, and business travel patterns. The dashboard uses an HR dataset containing attributes such as employee demographics, job roles, marital status, years of service, and education levels.

The primary goal is to offer actionable insights to optimize workforce management and reduce attrition.

**Technologies Used:**

1. **Excel:** Used for initial data cleaning and preparation.
2. **Power BI:** Used to create interactive visualizations and dashboards.

**Steps Overview:**

1. **Data Collection:** The dataset includes multiple employee-related attributes, such as age, gender, education, monthly income, job satisfaction, and attrition rates.
2. **Data Understanding:** The data was analyzed to identify key metrics for visual representation.
3. **Data Transformation:** Columns like age were transformed into grouped categories for easier analysis.
4. **Data Visualization:** Power BI was used to create an interactive dashboard that includes charts, graphs, and key performance indicators (KPIs).

**Dashboard Overview:**

The dashboard is divided into two primary pages, each focusing on different aspects of employee data.

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**Page 1 - Workforce Demographics and Diversity:**

### **1. Overall Metrics Summary**

* **Overall Employees**: 15,000 employees in total.
* **Turnover Percentage**: 19.69% of the workforce has left the company, indicating employee retention challenges.
* **Average Age**: The workforce has an average age of 40.95 years, reflecting a mature employee base.
* **Average Salary**: $80.16K average salary, indicating a relatively competitive pay structure.
* **Year of the Company**: The company has been operational for 8 years.

### **2. Gender Distribution**

* **Males**: 7,474 (49.83%)
* **Females**: 7,526 (50.17%)
* The company has a near-even gender balance, which is positive for diversity and inclusion efforts.

### **3. Age Distribution**

* Largest age groups:
  + **40-50**: 3,827 employees
  + **50-60**: 3,857 employees
* **20-30**: 3,150 employees
* **60+**: 392 employees
* The majority of employees are in the 40-60 age range, indicating a significant portion of experienced professionals.

### **4. Employees per Department**

* **Top Departments by Employee Count**:
  + Marketing: 2,584 employees
  + Sales: 2,532 employees
  + IT: 2,499 employees
* All departments have a balanced distribution between 2,400 and 2,584 employees, showing a well-distributed workforce across functions.

### **5. Tenure Impact on Performance**

* There is a positive correlation between tenure and performance, where longer tenure results in slightly higher average performance. This trend suggests experienced employees contribute more effectively over time.

### **6. Joining Trend by Roles**

* The line chart shows the hiring trend over time by different roles:
  + Notable increase from mid-2015 to early 2017.
  + Fluctuations are visible in specific roles, like Sales and Marketing, with higher hiring trends from mid-2016 to early 2017.
* Consistent hiring indicates steady organizational growth.

### **Recommendations**

* **Retention Strategies**: Focus on reducing the turnover rate with engagement programs and career development.
* **Succession Planning**: With a high number of employees in the 40-60 age range, planning for retirements is essential.
* **Diversity Initiatives**: Maintain the gender balance and promote inclusive leadership roles.
* **Performance Optimization**: Use the tenure-performance correlation to mentor newer employees.

**Page 2 - Skills, Training, and Development:**

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**Conclusion:**

This HR Analytics Dashboard serves as a critical tool for HR managers, enabling them to:

* Identify patterns of employee attrition by department, role, and demographics.
* Understand the impact of factors like job satisfaction, income, and business travel on retention.
* Develop data-driven strategies to improve employee engagement, retention, and workforce management.

By leveraging the insights provided, HR teams can address key challenges, optimize employee satisfaction, and strengthen organizational performance.