<u>PRE - REPORT ON EMPLOYEE ATTRITION & RETENTION ANALYSIS</u>

(Course: Strategic Decision Making with PowerBI)

Prepared By:

Saumya Singh

2023JULB01001

TABLE OF CONTENT

1. Problem Statement

The primary goal of this analysis is to understand the factors contributing to employee attrition within an organization. Employee attrition, or turnover, refers to the number of employees leaving the organization over a specific period. High attrition can impact company morale, productivity, and profitability, so identifying trends and insights is crucial for developing strategies to reduce turnover.

2. Data Requirement

To address the problem, the required data includes:

- **Employee Demographics:** Age, Gender, Education Field, and Department.

- **Job Information:** Job Role, Department, and Average Salary.

- **Attrition Data:** Total number of employees, count of those who left, and attrition rate.

- **Tenure Information:** Average number of years spent in the company.

- **Compensation Details:** Salary ranges.

- **Additional Factors:** Breakdown of attrition by various attributes like age, salary, education, and job role.

3. Data Collection

The data was sourced from an HR Analytics Excel file, likely containing employee details, job roles, demographics, and other relevant information. This data was then imported into Power BI, where it was visualized in a dashboard format. The dashboard highlights:

- Count of employees.
- Total attrition and attrition rate.
- Demographic analysis (age, gender, education).
- Analysis by salary and job role.
- Insights on employee retention by department.

4. Data Validation

Data validation involves ensuring the accuracy and quality of data collected. The validation steps may include:

- **Data Consistency:** Checking for consistency in department names, job roles, and salary brackets.

- **Missing Values:** Identifying any missing entries in key columns like employee ID, department, or salary details.

- ➢ **Range Checks:** Ensuring data falls within acceptable ranges, e.g., salary figures are not below minimum wage standards or excessively high, and age values are realistic.

- ➢ **Unique Values:** Ensuring there are no duplicate entries for unique identifiers like Employee IDs.

5. Data Cleaning

Data cleaning is a crucial step to prepare the dataset for analysis:

- ➢ **Handling Missing Values:** Filling in missing demographic data, replacing or removing missing values if they can't be accurately predicted.

- ➢ **Correcting Inconsistencies:** Standardizing data formats, such as ensuring consistent department names.

- ➢ **Removing Outliers:** Identifying any data points that might skew the results, like unusually high salaries that do not match the position.

- ➢ **Data Transformation:** Converting data types where necessary, such as changing categorical values to numerical codes for certain analyses.

6. Tools

The primary tools used in this analysis include:

- ➢ **Microsoft Excel:** For data collection, basic data validation, and initial data exploration.

- ➢ **Power BI:** A business analytics tool used for interactive data visualization. Power BI allows for creating dashboards to visualize data trends, perform in-depth analysis, and identify patterns that are not easily seen in raw data.

7. Dashboard Analysis

The dashboard consists of several visualizations designed to provide insights into employee attrition:

- ➢ **Top Summary Metrics:** The dashboard provides a high-level overview of the workforce, including metrics on total employees, attrition rate, average age, salary, and tenure.
- ➢ **Attrition By Education:** A donut chart illustrates the distribution of employee education backgrounds, showing a dominance of Life Sciences and Medical graduates, with technical disciplines and Marketing also represented.
- ➢ **Attrition By Age:** A bar chart highlights that younger employee, particularly those in their mid-career stage, have the highest attrition rates.
- ➢ **Attrition By Salary:** Lower salary ranges show a noticeably higher turnover, indicating a potential link between compensation levels and employee retention.

- ➢ **Attrition By Years:** A line chart shows a peak in attrition around mid-tenure, with a significant decrease in later years, suggesting that retention improves as tenure lengthens.
- ➢ **Attrition By Job Role:** Certain roles, particularly in technical and sales-related positions, experience higher turnover compared to others.
- ➢ **Attrition By Gender:** A noticeable difference in attrition is observed between genders, with one gender having a higher attrition rate than the other.

8. Storytelling

The Power BI dashboard effectively tells a story about employee attrition in the organization:

- ➢ **Age Impact:** The data suggests younger employees (26-35) are leaving more frequently. This might be due to career advancement opportunities outside the organization or unmet job expectations.

- ➢ **Salary Influence:** Lower salary ranges have a higher attrition rate, indicating that increasing pay scales or offering competitive salaries could help in reducing turnover.

- ➢ **Departmental Analysis:** Specific departments, such as Sales and Technical roles, show higher attrition. This insight can guide targeted retention efforts, such as tailored professional development or role-specific incentives.

- ➢ **Education Trends:** Employees from Life Sciences and Medical backgrounds dominate the workforce, but their attrition numbers also raise questions about how their qualifications are being utilized and whether they have suitable career progression paths.

- ➢ **Job Role Insights:** High attrition among Laboratory Technicians and Sales Executives could indicate job dissatisfaction, workload stress, or better external opportunities.

9. Recommendations

To reduce employee attrition, the organization should consider a targeted retention strategy focusing on key areas highlighted by the data. Increasing competitive compensation, particularly for employees earning below 5K, could directly address high turnover rates tied to lower salaries. For departments and roles with elevated attrition, such as Sales and Laboratory Technicians, investing in professional development, role-specific training, and career advancement opportunities can enhance job satisfaction and reduce turnover. Implementing work-life balance initiatives and providing recognition for performance can foster a positive work culture, contributing to long-term employee retention.