Before we start analyzing data and asking business questions, we applied the exploratory data analysis (EDA) step, which helps to understand the dataset’s structure, detect patterns, and identify any issues.

We conducted an initial study of the Human Resources (HR) business to define the strategic questions and Key Performance Indicators (KPI’s), as well as to determine the objectives we will focus on in the coming period.

The study helped us understand the overall context of HR data, enabling us to prioritize and direct the analysis in alignment with business goals.

**1. Hiring & Workforce Distribution**

* Q1: Hiring Trend Over Time (Year – Quarter – Month – Weekday)
* Q2: Total New Hires (This Year)
* Q3: Percentage Increase/Decrease in Hiring (YOY)
* Q4: Number of Employees in Each State
* Q5: Top & Bottom 5 States by Number of Employees
* Q6: Top 5 States by Percentage of Total Employees
* Q7: Number of Employees by Gender in Each Region
* Q8: Hiring Trends by Gender Over Time

**2. Employee Demographics**

* Q1: Average Age at Hiring
* Q2: Gender Ratio (Male vs Female)
* Q3: Average Age by Region
* Q4: Number of Employees by Age Group
* Q5: Average Age by Region
* Q6: Average Age in Company by Gender
* Q7: Top & Bottom 5 States by Average Age in Company
* Q8: Average Age in Company by Region
* Q9: Percentage of Employees with Same Last Name
* Q10: Name Prefix Analysis (Count, Average Salary, Average Hike)
* Q11: Email Classification (Individual vs Company)
* Q12: Average Age (Left vs Stayed)

**3. Experience & Compensation**

* **Q1: Average Salary by Gender**
* **Q2: Correlation Between Salary and Age in Company**
* **Q3: Average Salary by Region**
* **Q4: Number of Employees by Last % Hike Category**
* **Q5: Number of Males and Females by Last % Hike Category**
* **Q6: Distribution by Age in Company (Experience)**
* **Q7: Salary Box Plot Distribution and Outliers**
* **Q8: Average Salary in Each State**
* **Q9: Average % Hike by Age Group**
* **Q10: Average Salary by Age Group**
* **Q11: Correlation Matrix (Salary, Age in Company, % Hike)**
* **Q12: Distribution by Career Stage**
* **Q13: Salary Comparison Across Career Stages**

**4. Success Factors of Top 10% High-Earning Employees**

* **Q1: What is the average age of the top 10% employees based on salary**
* **Q2: What is the gender distribution among the top 10% employees**
* **Q3: What is the regional distribution of the top 10% employees**
* **Q4: What is the average years of experience for the top 10% employees**
* **Q5: How does the joining time (quarter/half/year) relate to the salary growth of the top 10% employees**

**5. Attrition & Exit Analysis**

* **Q1: Overall Employee Attrition Rate**
* **Q2: Region with Highest Attrition**
* **Q3: State with Highest Attrition**
* **Q4: Average Salary Comparison (Left vs Stayed)**
* **Q5: Average Tenure Comparison (Left vs Stayed)**
* **Q6: Attrition Trend Over Time (Year, Quarter, Month)**
* **Q7: Gender Distribution of Employees Who Left**
* **Q8: Average Last % Hike (Left vs Stayed)**