# Problems and background

In today’s competitive business environment, retaining talent is crucial. The organization’s attrition rate stands at 16.12%, with 237 employees leaving, surpassing industry benchmarks. The "Executive HR Overview" dashboard aims to identify the causes of attrition by analyzing demographic and job-related factors. It provides strategic and tactical insights, aligning talent management with business goals and offering actionable recommendations

# Project scope

This project aims to analyze employee attrition data to identify key factors contributing to turnover. This will allow HR to implement targeted interventions that reduce attrition and improve workforce stability.

## Key Steps to Improve Process Effectiveness

* **Identify Areas for Impact**: To focus on specific high-attrition roles, departments, or demographics.
* **Customize Solutions**: Tailor retention strategies based on the specific needs of the identified groups (e.g., career development for younger employees, work-life balance options).

## Stakeholders

* **HR Department**: Primary stakeholders responsible for implementing retention strategies.
* **Department Heads**: Involved in identifying attrition issues specific to their teams and facilitating interventions.
* **Executive Leadership**: Review and approve recommendations and monitor the impact on workforce stability.
* **Analytics Team**: Supports data analysis and dashboard creation to visualize insights and track progress.

## Process & Timeline

1. **Data Collection & Validation (Week 1)**
   * Gather employee data (demographics, job roles, department, age, satisfaction scores).
   * Clean and validate data for accuracy.

## Data Analysis (Week 2-3)

* + Analyze attrition factors: department, age group, gender, education, job satisfaction.
  + Identify trends and high-attrition demographics.

## Report Generation (Week 3-4)

* + Summarize findings and visualize data in dashboards.
  + Calculate key metrics: attrition rate, age distribution, and gender-specific patterns.

## Recommendations & Stakeholder Review (Week 4-5)

* + Develop actionable recommendations for attrition drivers.
  + Collaborate with HR to create a phased plan for retention strategies targeting high-risk areas.

# Methodology

* **Data Sources**: Using a Kaggle dataset with employee demographics, job roles, satisfaction scores, and attrition data.
* **Data Understanding**: Reviewing and understanding the relevant features
* **Data Cleaning**: Addressing missing values, correcting data types, and handling outliers for accuracy.
* **Data Modelling**: No need for data modeling.
* **Data Manipulation**: Creating new features like CF\_age band, aggregating, and filtering using Excel and Tableau using Calculated Fields.
* **Data Visualization**: Creating interactive charts in Tableau to highlight key insights.

# KPIs

* **Employee Count**: The total employee count is 1,470, with 1,233 active and accounted employees[headcount]
* **Attrition Count**: Total attrition stands at 237 employees.
* **Attrition Rate/Employee Turnover**: The organization’s attrition rate is 16.12%.
* **Average Age**: The average employee age is 37 years.
* **Gender Distribution**: Male employees (150) outnumber females (87) in terms of attrition.

Here’s how each key metric can drive business value:

## Employee and Attrition Counts:

* + - By tracking the total headcount and the number of employees leaving, the business can gauge the overall stability of its workforce. Understanding the exact attrition count (237 employees) helps in planning for recruitment needs and maintaining adequate staffing levels to avoid disruptions in productivity.

## Attrition Rate:

* + - A 16.12% attrition rate provides a clear indicator of the organization’s retention health. Benchmarking this rate helps the business assess whether its turnover is within an acceptable range for the industry. Lower attrition can save recruitment and onboarding costs and retain institutional knowledge.

## Average Age:

* + - With an average employee age of 37, the organization can assess whether its workforce is balanced in terms of experience and adaptability. It can tailor retention strategies based on age demographics, such as offering career development or flexible work options to appeal to both younger and older employees.

## Gender Distribution in Attrition:

* + - Noting that more male employees (150) are leaving compared to females (87) enables the organization to analyze potential gender-specific issues in job satisfaction, growth opportunities, or work-life balance.

# Analysis:

* + Attrition peaks at ages 28-36, especially R&D and Sales show the highest attrition, with specialized roles like Research Scientist and Laboratory Technician being most affected.
  + Employees with Medical and Technical degrees face high attrition, driven by external demand for these skills, emphasizing the need for competitive retention strategies.
  + Males generally exhibit higher attrition rates across most roles, particularly in Sales and Laboratory Technician positions.
  + Single employees may have higher attrition in high-demand roles, possibly due to greater flexibility in job-switching mostly in the age gap of 28-32 in the same roles.
  + Employees doing overtime have higher attrition due to stress and burnout in the similar age gap of 28-34.
  + Employees doing Overtime, Traveling frequently, and being single has the highest turnover of around 55%.

# Actions to be taken by Business heads

Attrition is highest among employees aged 28-36, particularly in R&D and Sales roles, with factors like high-demand skills, overtime, frequent travel, and single status driving turnover, highlighting the need for targeted retention strategies.

Here are actionable strategies HR heads can implement to address the identified attrition drivers:

1. **Targeted Retention Plans for High-Risk Roles**: Develop competitive retention strategies, including market-aligned compensation, professional growth opportunities, and skill development programs, specifically for R&D and Sales employees, Research Scientists, and Laboratory Technicians.
2. **Flexible Work Arrangements**: Introduce policies like flexible hours or remote work to reduce stress and accommodate employees' personal and professional needs, especially for those in high-stress roles like overtime workers.
3. **Employee Wellness Programs**: Establish wellness initiatives to combat stress and burnout, such as mental health support, regular breaks, and stress-management training for employees working overtime or traveling frequently.
4. **Retention of young talents:** The best strategy to address attrition among employees aged 28-34 is to focus on personalized career growth opportunities through clear advancement paths, upskilling, and leadership programs.
5. **Engagement for Single Employees**: Create engagement strategies tailored for single employees, such as team-building activities, mentorship programs, and career development opportunities to strengthen their connection with the organization.
6. **Retention Bonuses for High-Demand Skills**: Offer retention bonuses or incentives to employees with Medical and Technical degrees, aligning with external demand for these skills to reduce turnover.
7. **Diversity and Inclusion Initiatives**: Address higher male attrition rates in Sales and technical roles by fostering an inclusive culture that supports work-life balance and values individual contributions.
8. **Travel Optimization Policies**: Optimize travel requirements to reduce stress for employees who travel frequently, offering compensatory time off or travel allowances as incentives.
9. **Proactive Data-Driven Interventions**: Use predictive analytics to identify employees at high attrition risk based on factors like age, role, and workload, enabling HR teams to intervene proactively.

# Project owner

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