Data Analysis

EMPLOYEE ATTRITION

Power BI (Power Query, DAX)

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Poertfolio

EXECUTIVE SUMMARY

This report investigates a recent increase in employee attrition over the past four months, with no specific dates provided. Using the available HR dataset, a data-driven analysis was conducted to identify key factors contributing to attrition and offer strategic recommendations for improvement.

Objectives

Identify the Key Drivers of Employee Attrition
- To analyze the HR dataset and uncover the most influential factors contributing to the recent increase in attrition rates

Segment At-Risk Employee Groups
- To analyze demographic and professional patterns that highlight which groups are most vulnerable to leaving the organization.

Provide Retention Strategies
- To generate actionable insights and practical recommendations and reduce future attrition rates

Data Overview

The data set used for this analysis contains detailed e-mployee information, including demographic, employment information, compensation & financials, tenure & experience and satisfaction-related attributes. It consists of various features for each employee such as age, department, income, job role, education, and more. The primary goal of the analysis was to identify the factors most closely related to employee attrition.

For this purpose, **the following variables were selected based on their significant correlation** with attrition trends:

- Age

- Department

- Job Role

- Job Level

- Years At Company

- Monthly Income

- Low Satisfaction Scores

- MaritalStatus

- Gender

- TotalWorkingYears

Data Analysis and Visualization

- Department-wise Attrition

Department

● Research & De... ● Sales ● Human Res...

The donut chart shows that the **Research & Development** department accounts for approximately **56%** of total attrition, making it the most affected area. The **Sales** department follows closely with about **38%**, highlighting these two departments as key focus areas for retention efforts.

- Top 5 Roles with Highest Attrition
  Analysis of job roles indicates that certain roles are more prone to attrition
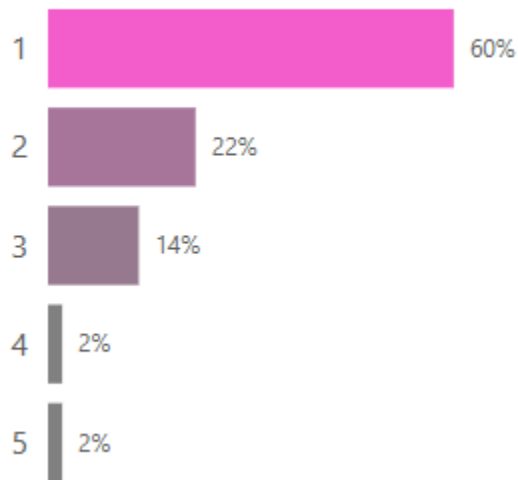 - Research & Development

JobRole	Count of ID
Laboratory Technician	62
Research Scientist	47
Manufacturing Director	10
Healthcare Representative	9
Manager	3

  - Sales

JobRole	Count of ID
Sales Executive	57
Sales Representative	33
Manager	2

- Job Level Distribution

Count of Employees by JobLevel
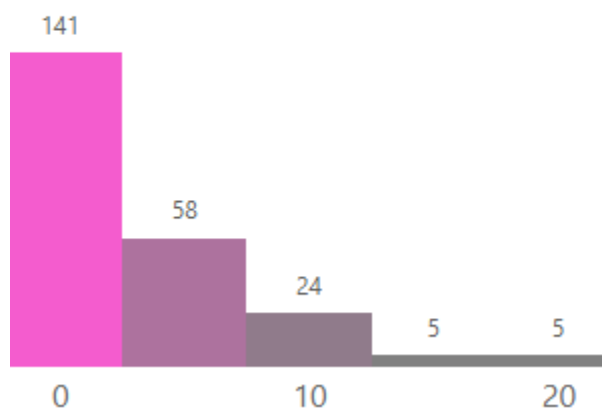
Level		Percentage
1		60%
2		22%
3		14%
4		2%
5		2%

The employee count by job level reveals that Level 1 employees make up about 60% & Level 2 accounts for approximately 22% of those who left, **indicating that early-career and entry-level staff are significantly more likely to leave.**
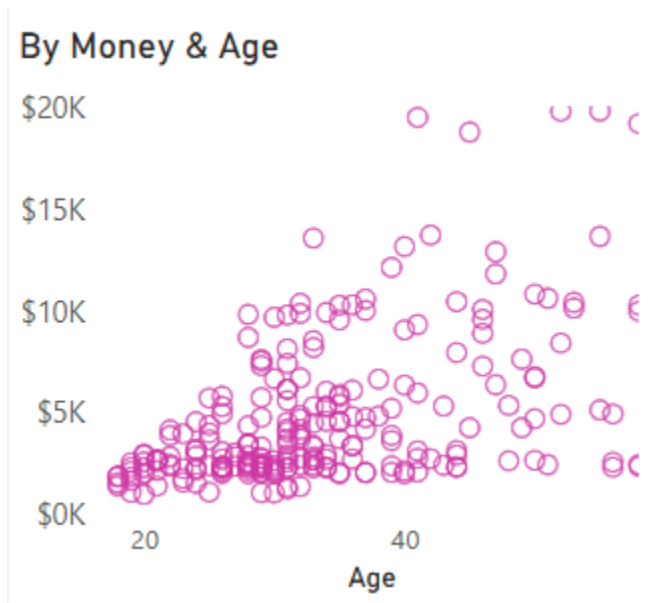
- Years Worked at the Company

Years Worked (Bins)

Bin	Count
0	141
	58
10	24
	5
20	5

From the data, it is observed that **141 employees who left had tenure between 0 to 5 years**, reinforcing the insight that early-stage employees are at a higher risk of attrition.
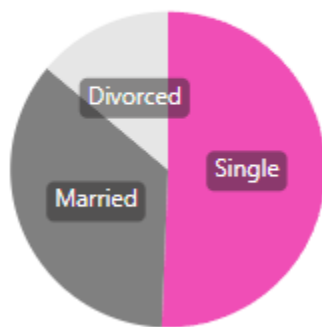
- Attrition by Age and Monthly Income

By Money & Age

The scatter plot shows a visible high attrition among employees aged **20 to 35 years and earning between $0 to $5000** monthly. This age-income segment stands out as particularly vulnerable and should be considered for closer engagement and compensation review.

- Marital Status

MaritalStatus

The data reveals that **around 50% of the employees who left were single**, suggesting that marital status could have a notable influence on attrition patterns, possibly tied to mobility, career expectations, or work-life balance preferences.

- Gender Distribution

Gender

Attrition is approximately 67% of those who left being male & 33% of female

- Job and Environment Satisfaction

Low Satisfaction Scores

Satisfaction	1	2	3	4
Environment	72	43	62	60
Job	66	46	73	52
Relationship	57	45	71	64

An evaluation of satisfaction levels indicates that **about half of the employees who left the organization had low job and environmental satisfaction**, measured by a score of 1 or 2 on a 4-point scale.

Key Findings

1. **Attrition is predominantly concentrated in specific departments, with certain roles experiencing significantly higher turnover compared to others.**

2. **Early-career and entry-level employees are more likely to leave the organization, especially those with fewer years of experience and tenure.**

3. **Attrition trends are more prevalent among certain age groups, income levels, and demographic segments, highlighting the need for more personalized engagement and retention strategies.**

4. **Lower satisfaction with the work environment and job responsibilities is commonly observed among employees who have exited, indicating dissatisfaction as a key driver of attrition.**

Recommendations

Support for New Employees
Review and improve the current training program by identifying and updating any missing or outdated content. Focus especially on the **Research & Development** and **Sales** departments, where attrition is highest. Make the first few month's smoother for new hires by providing clear guidance, role-specific training, and regular support to help them adjust and succeed early on.

Introduce Yearly Contracts for Entry-Level Roles
Implement **yearly job contracts** for entry-level and basic-level employees to increase their sense of commitment and accountability. Since new and inexperienced staff are more likely to leave early, a structured contract can encourage them to stay at least one year, helping reduce early-stage attrition.

Offer Performance-Based Salary Increases for Entry-Level Employees
Create a system to give **salary increments based on performance** to entry-level staff. The analysis shows that many employees leaving is in lower salary brackets. Recognizing and rewarding good performance with timely pay increases will help keep them motivated and more likely to stay.

Improve the Hiring Focus on Age and Marital Status
During the interview and hiring process, place more attention on trends related to **age and marital status**, as the data shows higher attrition among younger and single employees. Understanding their expectations and potential challenges can help HR better match candidates to roles and provide early support where needed.