DATA ANALYSIS USING POWER BI
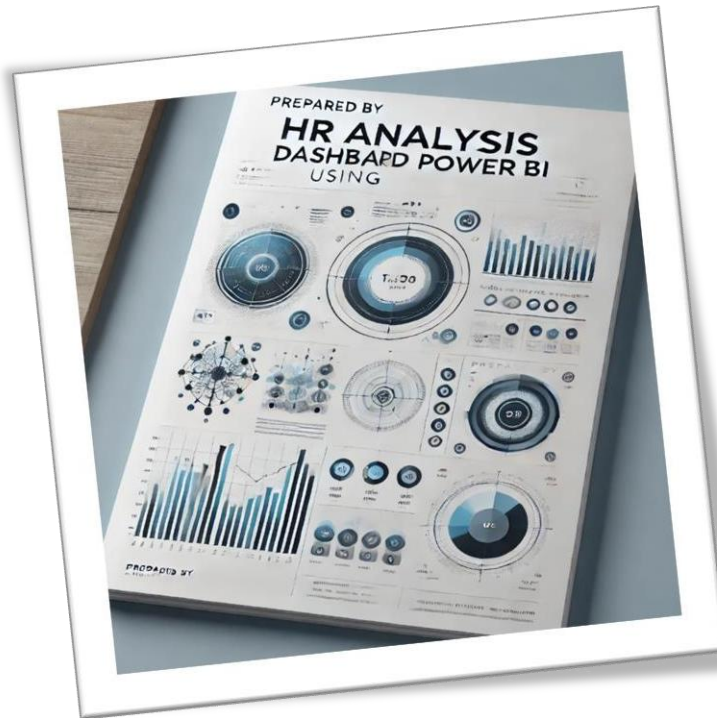

Project Title: HR Analysis Dashboard Using Power BI

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HR ANALYSIS DASHBOARD USING POWER BI

Objective:

The objective of this Power BI project is to create interactive and insightful dashboards and reports that enable users to visualize complex data, monitor performance, and make data-driven decisions. It involves integrating data from multiple sources, automating reporting processes, and providing actionable insights to support strategic planning, efficiency improvements, and better decision-making.

Brief Introduction about Power BI:

Before we enter into the main section of the project, here is a few words about Power BI and why we should use it.

Power BI is a business analytics tool developed by Microsoft for transforming raw data into interactive dashboards and business insights through data visualization. It enables users to connect to a wide range of data sources, perform data manipulation, and create reports that help in decision-making.

Advantages of Power BI:

1. **User-friendly**: Easy to use with drag-and-drop functionality.

2. **Data connectivity**: Supports various data sources (Excel, SQL, Azure, etc.).

3. **Interactive visualizations**: Allows users to create dynamic reports and dashboards.

4. **Real-time updates**: Provides real-time data insights.

5. **Cloud-based**: Accessible from anywhere, on any device.

6. **Integration**: Integrates with other Microsoft products (Excel, SharePoint, etc.).

7. **Cost-effective**: Offers scalable pricing options for different business sizes.

8. **AI-powered analytics**: Incorporates machine learning models and AI for enhanced data insights.

9. **Custom Visuals**: Supports custom visuals, allowing users to tailor reports and dashboards according to their specific needs.

10. **Collaboration and Sharing**: Enables easy sharing of reports and dashboards with team members, and collaboration features enhance teamwork.

11. **Security**: Provides robust data security features, including role-based access control, row-level security, and data encryption.

12. **Mobile Access**: Offers a dedicated mobile app, allowing users to access reports and dashboards on the go.

These features make Power BI a versatile and powerful tool for data analysis and business intelligence.

Detailed Information of Dataset:

This documentation provides an overview of the dataset, including the number of columns, descriptions of each column, and insights on the dataset's structure. The dataset contains employee information such as demographic details, job roles, satisfaction levels, compensation, and more, which are crucial for analyzing factors contributing to employee attrition.

1. Dataset Summary

- **Total Number of Columns**: 35

- **Total Number of Rows**: 4410 (each row represents an employee)

2. Column Descriptions

Here's a breakdown of each column, its data type, and a brief description of what it represents:

Column Name	Data Type	Description
emp no	Integer	Unique identifier for each employee. Used for internal tracking.
Attrition	Text	Indicates whether the employee has resigned. Values: Yes, No.
Age	Integer	The employee's age.
CF_ age band	Text	A grouped representation of age (e.g., 20-30, 31-40). Derived from the Age column.
Business Travel	Text	Frequency of business travel. Values: Rarely, Frequently, Non-Travel.
Department	Text	Department where the employee works (e.g., Sales, R&D, HR).
Distance From Home	Integer	Distance (in miles or kilometers) between the employee's home and workplace.
Education	Integer	Level of education (1-5). Represents different educational stages.
Education Field	Text	Field of study (e.g., Life Sciences, Medical, Human Resources).
Employee Count	Integer	Usually a constant value. Represents the total number of employees in the dataset.
Employee Number	Integer	Another unique identifier for employees.
Gender	Text	Gender of the employee (Male, Female).
Job Role	Text	The employee's role within the company (e.g., Sales Executive, Research Scientist).

Column Name	Data Type	Description
Marital Status	Text	Marital status (Single, Married, Divorced).
Monthly Income	Integer	Employee's monthly salary.
Hourly Rate	Integer	Hourly wage for employees.
Daily Rate	Integer	Employee's daily pay rate.
Monthly Rate	Integer	Monthly pay rate for employees.
Num Companies Worked	Integer	Total number of companies the employee has worked for prior to this job.
Over 18	Text	Indicates if the employee is over 18 years old. Likely constant across all rows.
Percent Salary Hike	Integer	Percentage increase in salary during the last hike.
Performance Rating	Integer	Employee's performance rating (1-4).
Relationship Satisfaction	Integer	Satisfaction level with relationships at work (1-4).
Standard Hours	Integer	Standard working hours per week. Usually constant (e.g., 80 hours).
Stock Option Level	Integer	Level of stock options offered to the employee (0-3).
Total Working Years	Integer	Total number of years the employee has worked in their career.
Training Times Last Year	Integer	Number of training sessions the employee attended last year.
Years At Company	Integer	Number of years the employee has worked at the current company.
Years In Current Role	Integer	Number of years the employee has been in their current job role.
Years Since Last Promotion	Integer	Number of years since the employee's last promotion.
Years With Current Manager	Integer	Number of years the employee has been working with their current manager.
Job Involvement	Integer	Employee's level of involvement in their job (1-4).
Job Level	Integer	Employee's job level in the organization (1-5).
Job Satisfaction	Integer	Satisfaction level with their job (1-4).
Work Life Balance	Integer	Work-life balance rating (1-4).
Environment Satisfaction	Integer	Satisfaction with the work environment (1-4).
CF_ attrition label	Text	Label indicating whether an employee is current or former. Potentially redundant due to the Attrition column.

3. Key Attributes for Analysis

Attrition (Target Variable)

- **Purpose**: This column is the key variable for understanding employee turnover. It identifies whether an employee has left the company (Yes) or is still with the company (No).

Age, Age Band

- **Purpose**: These columns help analyse the impact of age on employee attrition. The age band provides grouped ranges, while the exact Age gives more granular data.

Business Travel

- **Purpose**: Frequency of business travel may impact job satisfaction and attrition. This can be analyzed to see if frequent travelers are more likely to resign.

Job Role

- **Purpose**: Helps identify which roles have the highest attrition rates, allowing for job-specific retention strategies.

Department

- **Purpose**: Understanding department-level attrition rates can provide insights into where intervention is most needed.

Monthly Income, Salary Hike, Performance Rating

- **Purpose**: These financial and performance-related columns help analyze the relationship between compensation, performance, and attrition. For instance, employees with lower salary hikes may be more likely to leave.

Years At Company, Years Since Last Promotion

- **Purpose**: These columns are essential for analysing how tenure and promotion opportunities affect attrition. Employees who haven't been promoted in a while might be more likely to resign.

Satisfaction Scores (Job, Relationship, Environment, Work-Life Balance)

- **Purpose**: These columns capture employees' satisfaction with different aspects of their job. Poor satisfaction scores may indicate higher attrition risks.

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4. Additional Considerations

- **Derived Columns**: Some columns, such as CF_age band and CF_attrition label, are derived and may provide duplicate information. For example, Attrition already provides

the same insight as CF_ attrition label, and CF _age band is just a grouped version of Age.

- **Constant or Low-Variance Columns**: Columns like Over 18, Standard Hours, and Employee Count have little to no variance, meaning they don't provide useful insights and can be considered for removal during data cleaning.

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5. Data Cleaning Steps

For this analysis, we recommend the following steps:

- **Remove Redundant Columns**: emp no, Employee Number, CF _attrition label, Employee Count, Over 18, Standard Hours.

- **Handle Missing Values**: Ensure there are no missing values in critical columns such as Attrition, Age, Department, etc. If missing values exist, decide whether to impute or exclude rows.

- **Outlier Detection**: Check for outliers in columns like Monthly Income, Years At Company, etc., as extreme values could skew the analysis.

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6. Conclusion

This dataset provides a comprehensive view of employee information, with key columns that will help identify factors contributing to attrition. By cleaning the dataset and focusing on critical attributes like Attrition, Job Role, Department, Years At Company, and Satisfaction Scores, meaningful insights can be drawn regarding why employees leave the company.

Summary of the HR Analysis Dashboards:

The HR Analysis Dashboard provides a comprehensive overview of employee data and insights into resignation trends within the organization. There is 2 page in this dashboard.

1. **Overview Dashboard**:

    o Displays **key metrics** such as **total employees, resigned employees**, and the **attrition rate**.

    o Breaks down employee data by **job role**, **department**, and **education level**, highlighting resignation trends.

    o Visualizes the **monthly income distribution** by job role and gender, uncovering potential **pay disparities**.

    o Emphasizes the importance of **work-life balance** and its effect on resignation.

2. **Attrition Analysis Dashboard**:

- o Analyses the factors leading to resignations, such as **age**, **job satisfaction**, **years since promotion**, and **work-life balance**.

- o Highlights resignation trends based on **business travel frequency**, showing that employees with less travel engagement have higher resignation rates.

- o Provides detailed attrition insights by **education level and gender**, helping identify groups at higher risk of leaving.

Overall, the dashboards allow HR to focus on specific areas like **job role pressures**, **career progression**, and **work-life balance**, helping improve retention strategies and employee satisfaction.

Detailed Information About the Dashboard:

1. Introduction:

The HR Analysis Dashboard is designed to provide a comprehensive understanding of employee attrition and its contributing factors. Through visual data representation, it allows stakeholders to analyse key metrics such as total workforce, resignation rates, job satisfaction levels, educational qualifications, and more. This data helps Human Resource departments to uncover underlying trends in employee resignations and develop strategies to improve employee retention.

Overview Dashboard
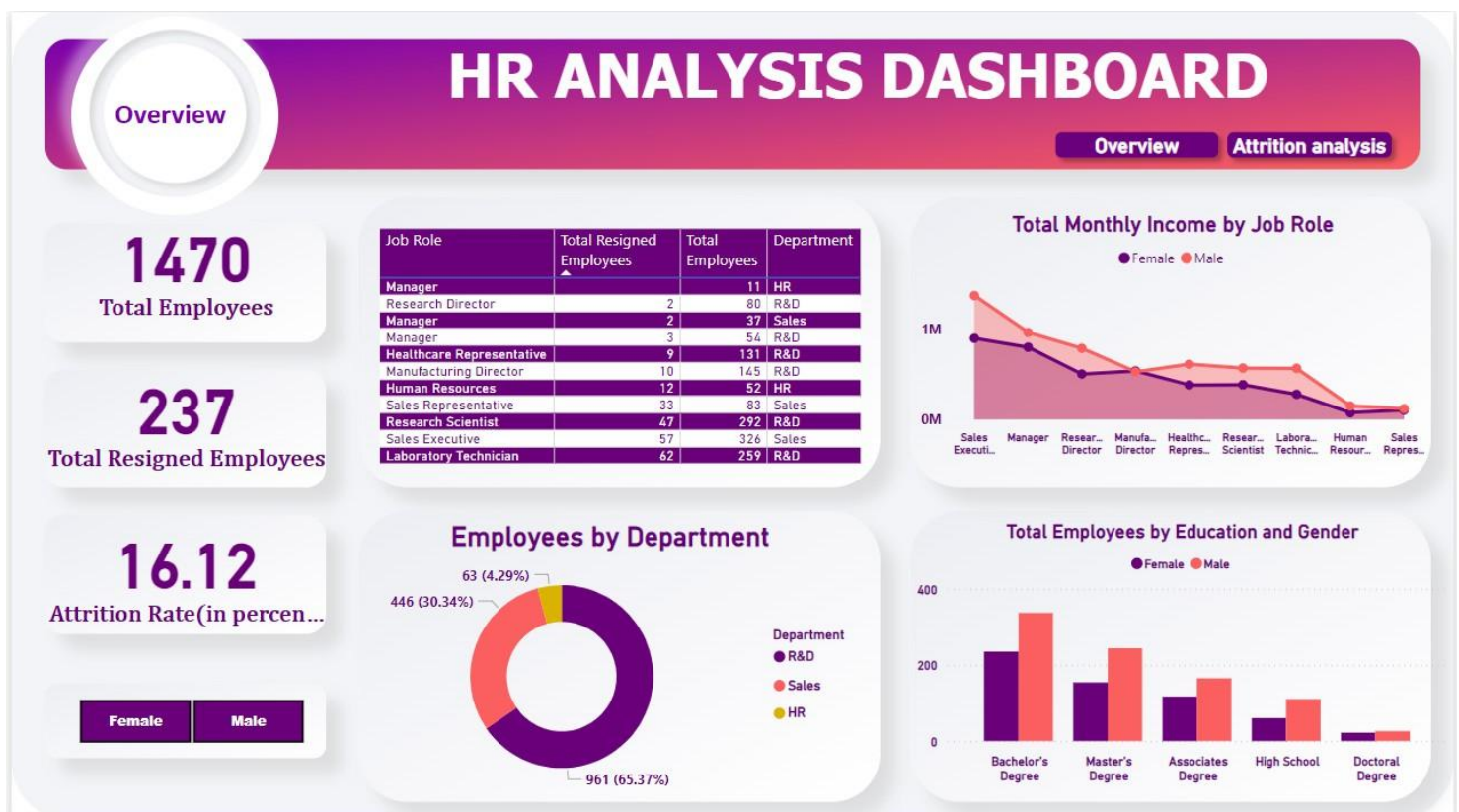
2. Dashboard Overview:

The dashboard is split into two main sections:

- Overview: This section gives a high-level summary of the total number of employees, resignation numbers, employee distribution across departments, and various insights related to job roles and monthly income.

- Attrition Analysis: This section digs deeper into employee resignation trends by analysing key factors such as age, job satisfaction, work-life balance, and educational background, to understand how these contribute to attrition.

Attrition analysis Dashboard
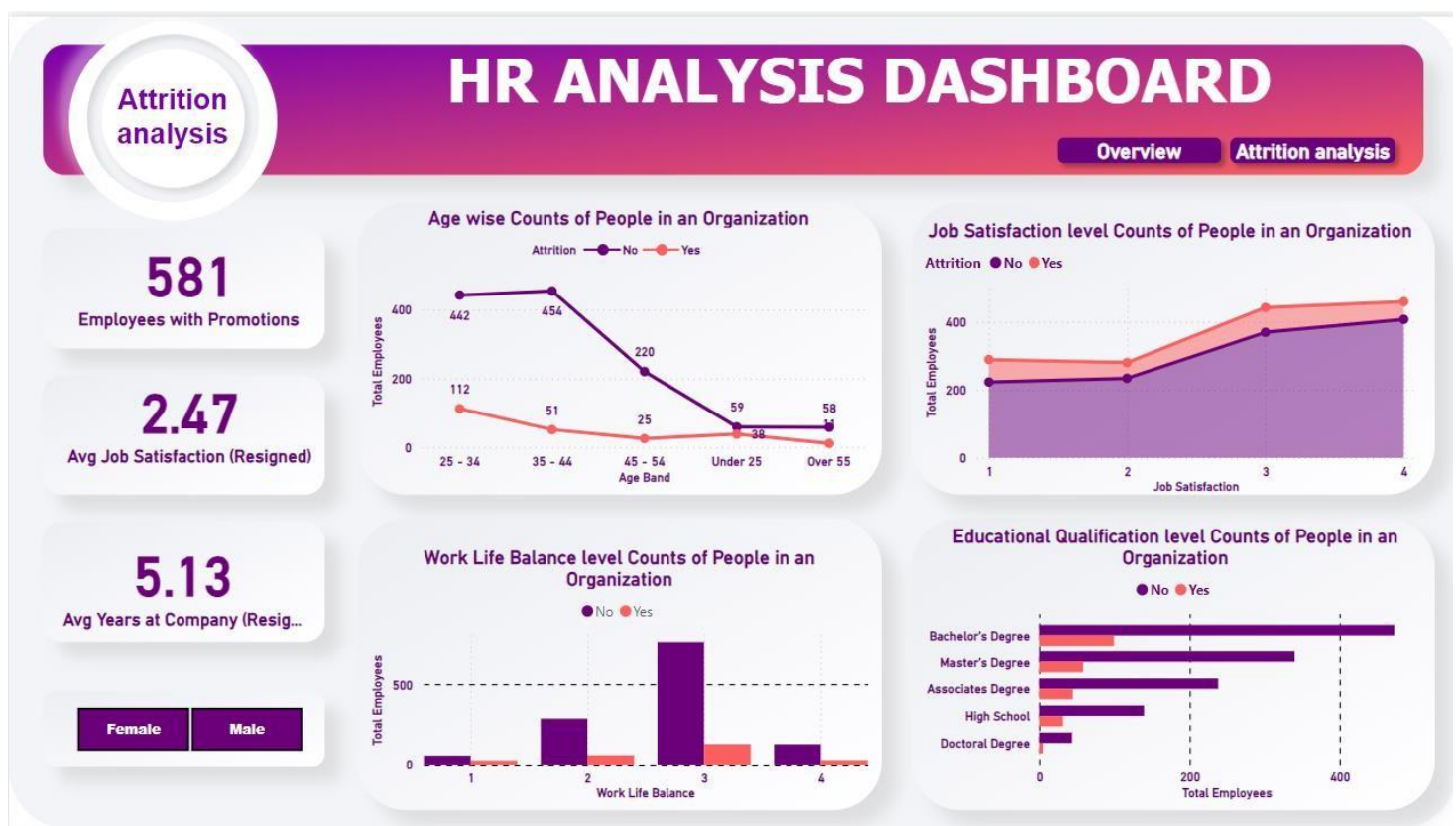
**3. Description of Visuals and Buttons:**

Overview Page:

- **KPI Tiles:**
    - **Total Employees**: Displays the total number of employees in the organization (1470). This figure serves as a foundational metric to measure overall attrition rates and the proportion of employees across departments and job roles.

- **Total Resigned Employees**: Indicates the total number of employees who have resigned from the organization (237), providing a quantitative measure of workforce attrition.
- **Attrition Rate**: Shows the attrition rate (16.12%) as a percentage of the total workforce. This helps track the organization's ability to retain employees and highlights the overall turnover.

- **Employees by Department (Pie Chart):**
  This pie chart visually represents the breakdown of employees by department. The largest proportion of employees (65.37%) work in R&D, followed by Sales (30.34%) and HR (4.29%). This chart gives an immediate understanding of the workforce distribution, making it easier to spot where most employees are concentrated and how each department contributes to the overall workforce.

Employees by Department

- 63 (4.29%)
- 446 (30.34%)
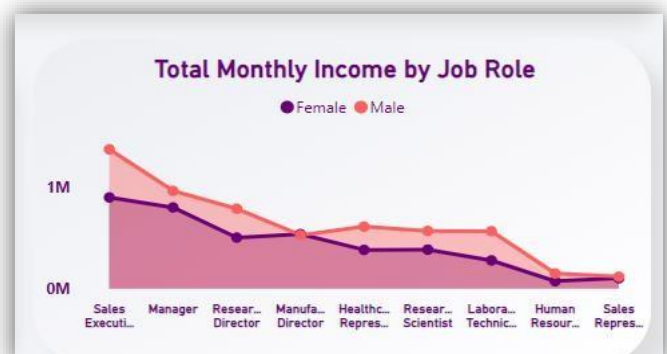- 961 (65.37%)

Department
- ● R&D
- ● Sales
- ● HR
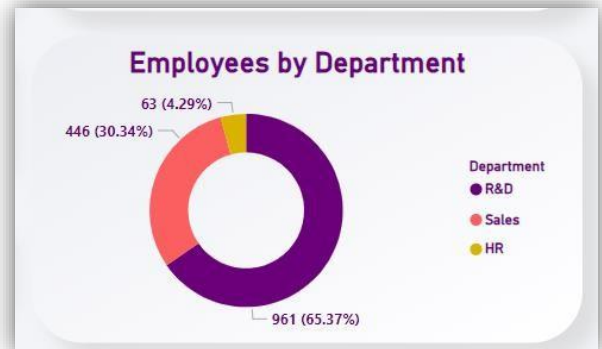
- **Job Role vs. Resignation (Table):**
  This table lists the total number of employees for each job role along with the corresponding number of resigned employees. For example, the Laboratory Technician role has the highest number of resignations (62 out of 259 employees), while other roles like Research Directors and Managers show fewer resignations. This visual helps pinpoint specific roles where resignations are concentrated, which can highlight potential areas of concern in job satisfaction or work conditions.

Job Role	Total Resigned Employees ▲	Total Employees	Department
Manager		11	HR
Research Director	2	80	R&D
Manager	2	37	Sales
Manager	3	54	R&D
Healthcare Representative	9	131	R&D
Manufacturing Director	10	145	R&D
Human Resources	12	52	HR
Sales Representative	33	83	Sales
Research Scientist	47	292	R&D
Sales Executive	57	326	Sales
Laboratory Technician	62	259	R&D

- **Total Monthly Income by Job Role (Line Chart):**
  This line chart compares the average monthly income of male and female employees across various job roles, highlighting any income disparities. For example, males in managerial roles tend to have higher average incomes than their female counterparts. This visual serves as a critical metric for identifying salary gaps

Total Monthly Income by Job Role

● Female ● Male

1M

0M

Sales Executi... | Manager | Resear... Director | Manufa... Director | Healthc... Repres... | Resear... Scientist | Labora... Technic... | Human Resour... | Sales Repres...

and understanding whether income might be a contributing factor to employee dissatisfaction or attrition.

- **Total Employees by Education and Gender (Bar Chart):**
This bar chart breaks down the total number of employees by their education level and gender. It shows that employees with bachelor's degrees are the most common, followed by those with master's degrees. This visual gives insights into the educational makeup of the workforce, which can be linked to their performance, career growth,

and resignation rates. Understanding this breakdown helps to see if there's a correlation between education level and career satisfaction.
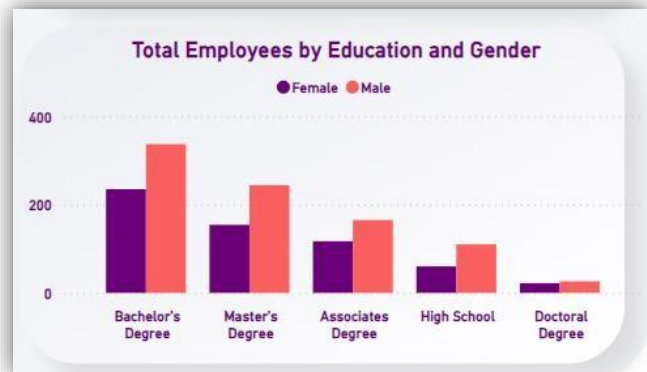
Attrition Analysis Page:

- **KPI Tiles:**
  - **Average Age (Resigned):** Displays the average age of employees who have resigned (33.61 years). Understanding the age group of those resigning helps identify whether young employees or experienced professionals are more prone to leave.
  - **Average Job Satisfaction (Resigned):** Shows the average job satisfaction level for resigned employees (2.47). Since this metric is on a scale from 1 to 4, a lower value indicates that resigned employees had poor job satisfaction, which is a key driver of turnover.
  - **Average Years at Company (Resigned):** Displays the average number of years resigned employees stayed with the company (5.13 years). This figure helps HR departments understand if most resignations happen within a specific tenure range.

- **Age-wise Counts of People in an Organization (Line Chart):**
This visual represents the distribution of employees across different age groups and highlights the difference between those who have stayed with the company (Attrition: No) and those who have resigned (Attrition: Yes). The chart shows that employees in the 35-44 age group have the lowest number of resignations, while younger employees, especially those under 25, have higher attrition
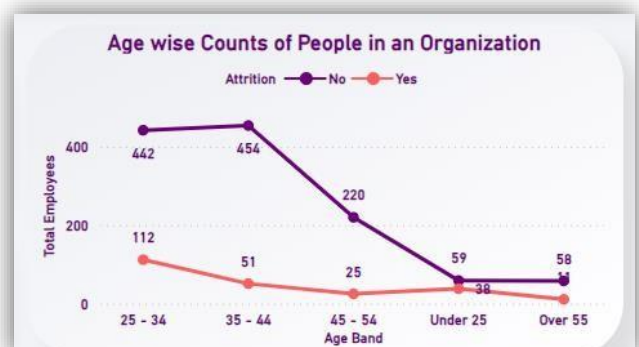
rates. This provides insights into the age demographics more prone to resigning and helps HR develop targeted retention strategies.

- **Job Satisfaction Levels (Line Chart):**
  This line chart compares job satisfaction levels between employees who have stayed and those who have resigned. Employees with lower job satisfaction (1 or 2 on the scale) tend to have higher attrition rates. The chart reveals a strong correlation between low job satisfaction and high resignation rates, emphasizing the importance of maintaining a positive work environment and addressing employee concerns early on.
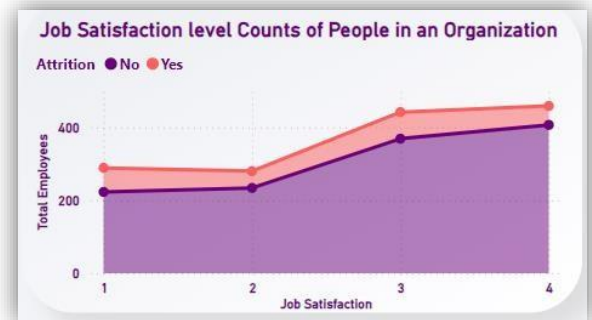
- **Work-Life Balance (Bar Chart):**
  This bar chart breaks down employees by their work-life balance levels (1 being poor, 4 being excellent) and shows the corresponding number of resignations. Employees who rate their work-life balance poorly (level 1) are more likely to resign. Interestingly, a greater proportion of females report a lower work-life balance compared to males. This visual highlights the need for HR departments to address work-life balance concerns, especially for those with poor ratings.

- **Educational Qualification (Bar Chart):**
  This chart shows the educational qualifications of employees who resigned versus those who stayed. Employees with a bachelor's degree represent the highest number of resignations. This can be valuable in understanding whether employees with certain education levels are more likely to leave, potentially due to limited growth opportunities or lack of further educational development.

- **Buttons:**
  Female / Male: These buttons act as filters, allowing the user to segment the data by gender. This allows for more detailed insights into how gender impacts various metrics such as resignation rates, job satisfaction, and income levels.

- **Overview / Attrition Analysis**: These navigation buttons switch between the dashboard's main sections, making it easier for users to toggle between high-level and detailed attrition insights.

Observations:

- **Departmental Breakdown:**

  The pie chart detailing the employees by department reveals that the Research & Development (R&D) department holds the majority of employees (65.37%), followed by Sales (30.34%) and Human Resources (4.29%). The high concentration of employees in R&D suggests that this department is vital to the organization's core functions. However, the table on job roles shows that the highest number of resignations is coming from the Laboratory Technician role within R&D, where 62 out of 259 employees resigned. This points to a possible issue with job satisfaction, work conditions, or growth opportunities within this specific role. Furthermore, the Sales department, despite accounting for a smaller portion of the workforce, also shows significant attrition, particularly among Sales Executives, with 57 out of 326 employees leaving. This suggests that job roles with high client interaction or pressure, like Laboratory Technicians and Sales Executives, might face unique stressors, such as demanding workloads or insufficient support, leading to higher turnover. HR departments should consider conducting further research into these roles to understand the root causes of dissatisfaction and improve retention strategies.

- **Income Disparity and Role-Based Resignations:**

  The line chart that compares total monthly income by job role highlights the difference in earnings between male and female employees across various roles. Notably, the chart reveals that males generally earn more than females, especially in managerial and high-level positions. For example, in the Manager role, male employees tend to have significantly higher average monthly incomes than their female counterparts. This disparity becomes less pronounced in lower-paying roles like Sales Representatives and Laboratory Technicians but is still present. Such discrepancies in income could be a contributing factor to female employee attrition, particularly in roles where the income gap is wider. Organizations should take note of this and work towards closing the gender pay gap to ensure that female employees feel valued and fairly compensated. Additionally, the income analysis could suggest

that male employees in higher-paying roles, particularly in management, might experience greater job satisfaction due to better financial rewards, which might lower their likelihood of resigning. This observation could be pivotal for addressing gender-specific retention issues and ensuring salary structures promote equity and satisfaction across all levels.

o **Work-Life Balance as a Key Factor:**

The bar chart on work-life balance levels uncovers one of the most critical drivers of employee attrition. It shows that employees who rated their work-life balance poorly (level 1) are disproportionately likely to leave the company. Interestingly, a significant portion of these employees are female, suggesting that women in the workforce may experience more difficulty managing work and personal responsibilities, perhaps due to societal expectations or less flexible work environments. The data also show that employees with a work-life balance rating of 3 (above average) have fewer resignations, indicating that work-life balance directly correlates with employee retention. This trend suggests that offering flexible work hours, remote work options, or better support for work-life integration could help mitigate attrition, especially among employees who rate their work-life balance poorly. Moreover, focusing on improving work-life balance for employees with level 2 or 3 ratings may prevent them from reaching level 1 dissatisfaction and, ultimately, leaving the organization. Organizations could implement wellness programs, enforce reasonable working hours, and provide additional resources for stress management, particularly targeting female employees or roles that report lower satisfaction with work-life balance.

o **Job Satisfaction Drives Attrition:**

The job satisfaction analysis, shown in the line chart, reveals a clear and concerning pattern: employees who rated their job satisfaction as 1 or 2 (on a scale of 4) are significantly more likely to resign. This demonstrates a strong correlation between low job satisfaction and employee turnover. Employees in these categories might feel unappreciated, overworked, or dissatisfied with their career progression opportunities, leading them to seek alternative employment. Moreover, as job satisfaction levels increase to 3 or 4, the gap between resigned and retained employees becomes smaller, indicating that higher satisfaction levels are associated with increased retention. This underscores the importance of actively monitoring and improving job satisfaction through employee engagement programs, career development opportunities, and regular feedback mechanisms. HR teams could consider conducting more frequent employee satisfaction surveys to identify areas of

discontent early and take corrective actions. This would not only improve retention but also help in creating a positive work culture where employees feel valued and motivated to perform their best. Addressing job satisfaction issues could also reduce the risk of top talent leaving, as dissatisfaction at lower levels often spirals into long-term dissatisfaction, resulting in turnover.

- o **Age Demographics and Attrition:**

  The age-wise distribution of employees and resignation patterns, represented in the line chart, provides valuable insights into which age groups are more prone to attrition. The chart indicates that younger employees, particularly those under 25, exhibit higher resignation rates, with 38 resignations compared to 59 retained employees. This could suggest that younger employees, being at an earlier stage in their careers, are more likely to explore other opportunities or switch industries to find their ideal career path. Additionally, they might leave due to entry-level dissatisfaction, insufficient training, or lack of mentorship in their early career stages. On the other hand, employees in the 35-44 age group show the lowest number of resignations, suggesting that mid-career professionals are generally more stable in their roles, potentially due to financial responsibilities or long-term career commitments. The uptick in resignations among employees over 55 could point to early retirement trends or disengagement as they approach the later stages of their careers. HR departments should consider tailored retention strategies for each age group. For younger employees, this could involve career development programs, mentorship, and clearer growth opportunities. For older employees, organizations could explore flexible work arrangements, phased retirement options, or roles that allow them to pass on their experience to younger colleagues.

- o **Educational Qualification and Resignations:**

  The bar chart comparing educational qualifications between resigned and retained employees shows a distinct trend: employees with bachelor's degrees represent the highest number of resignations. This trend might indicate that employees with this level of education are more likely to seek opportunities for advancement outside the organization, possibly due to limited growth opportunities within their current roles. It could also suggest that employees with bachelor's degrees feel underutilized or that their skillsets are not fully leveraged, leading to dissatisfaction and eventual resignation. Conversely, employees with master's and doctoral degrees show lower resignation rates, which could be attributed to better job security, higher pay, or roles that offer more intellectual engagement and fulfillment. These insights point to the importance of creating clear career paths and development opportunities for

employees with bachelor's degrees, ensuring that they feel valued and see a future within the company. HR teams might consider offering further education sponsorships, leadership development programs, or cross-departmental opportunities to keep these employees engaged and reduce turnover.

What to Do:

1. **Enhance Job Satisfaction Monitoring:** Implement frequent employee engagement surveys to monitor job satisfaction levels. Employees with lower satisfaction scores should be targeted with personalized interventions, including feedback sessions, performance reviews, and career growth discussions.

2. **Improve Work-Life Balance Programs:** Introduce flexible work arrangements, such as remote work, compressed work weeks, or flexible hours, particularly for employees who have rated their work-life balance poorly. HR should also consider creating wellness programs to alleviate work-related stress and promote mental well-being.

3. **Address Gender Pay Gaps:** Conduct a detailed salary audit to uncover any significant gender disparities in compensation. Implement policies to close the pay gap, especially in higher-paying managerial roles where the disparities are the most pronounced. Transparent communication around pay structure and rewards is also crucial.

4. **Tailor Career Development Opportunities:** Focus on creating career development programs for employees with bachelor's degrees, where the highest turnover is observed. Offering internal job rotation, training programs, or advanced education sponsorship can help retain this talent by creating clear career paths.

5. **Mentorship for Younger Employees:** Establish mentorship programs that focus on guiding younger employees in their career growth, helping them understand their potential within the organization, and offering a sense of direction. This could reduce the high turnover rate among employees under 25.

6. **Targeted Retention Programs for High-Turnover Roles:** Identify high-turnover job roles such as Sales Executives and Laboratory Technicians and design retention strategies for these positions. This may include reviewing work conditions, offering additional support, or providing incentives specific to these roles.

What to Do Better:

1. **Refine Work-Life Balance Policies:** Move beyond offering flexible hours to include more comprehensive wellness programs that focus on mental health, physical well-being, and stress management. Consider employee feedback when designing these

programs to ensure they effectively meet the needs of those with poor work-life balance ratings.

2. **Develop Role-Specific Compensation Strategies:** In addition to closing the gender pay gap, consider reviewing salary bands for roles with high turnover, especially in client-facing or high-stress positions. Increasing pay or introducing role-specific benefits may reduce dissatisfaction and attrition.

3. **Focus on Age-Specific Retention Strategies:** For younger employees, focus on opportunities for rapid skill development, networking, and mobility within the company. For older employees, offer phased retirement options or alternative roles that allow them to leverage their experience while avoiding burnout.

4. **Increase Data Transparency:** Introduce dashboards that allow employees to see how their compensation, satisfaction, and work-life balance compare to the company average. Transparency can foster a greater sense of trust and drive employees to address issues before they become reasons to resign.

Dax Formula Used Here

   i.   Attrition Rate = DIVIDE([Total Resigned Employees], [Total Employees])*100

  ii.   Attrition Rate by Department = DIVIDE(

 iii.   CALCULATE(COUNTROWS(Table1), Table1[Attrition] = "Yes", Table1[Department]),

 iv.   CALCULATE(COUNTROWS(Table1), Table1[Department])

  v.   )

 vi.   Avg Age (Resigned) = CALCULATE(AVERAGE(Table1[Age]), Table1[Attrition] = "Yes")

 vii.   Avg Job Satisfaction (Resigned) = CALCULATE(AVERAGE(Table1[Job Satisfaction]), Table1[Attrition] = "Yes")

viii.   Avg Work Life Balance (Resigned) = CALCULATE(AVERAGE(Table1[Work Life Balance]), Table1[Attrition] = "Yes")

 ix.   Avg Years at Company (Resigned) = CALCULATE(AVERAGE(Table1[Years At Company]), Table1[Attrition] = "Yes")

  x.   Avg Years Since Promotion (Resigned) = CALCULATE(AVERAGE(Table1[Years Since Last Promotion]), Table1[Attrition] = "Yes")

 xi.   Employees with Promotions = CALCULATE(COUNTROWS(Table1), Table1[Years Since Last Promotion] = 0)

 xii.   Resigned Employees (Frequent Travel) = CALCULATE(COUNTROWS(Table1), Table1[Attrition] = "Yes", Table1[Business Travel] = "Travel_Frequently")

xiii.   Resigned Employees (RareTravel) = CALCULATE(COUNTROWS(Table1), Table1[Attrition] = "Yes", Table1[Business Travel] = "Travel_Rarely")

xiv. Resigned Employees by Department = CALCULATE(COUNTROWS(Table1), Table1[Attrition] = "Yes", Table1[Department])
xv. Total Employees = COUNTROWS(Table1)
xvi. Total Resigned Employees = CALCULATE(COUNTROWS(Table1), Table1[Attrition] = "Yes")

Conclusion:

The HR dashboard reveals critical areas for improvement in job satisfaction, work-life balance, income equality, and role-specific challenges. Addressing these through strategic, data-driven interventions—such as enhanced development opportunities, refined compensation structures, and improved support programs—will significantly improve employee retention. A focus on personalized solutions for at-risk groups, including younger employees, females in higher-income roles, and staff in high-turnover positions, will create a more engaged, satisfied, and stable workforce, ultimately contributing to the organization's long-term success. By implementing these changes and continuously refining them based on real-time feedback, the company can better position itself to retain top talent and reduce attrition.