ABB GROUP

17th January, 2024

Overview

The ABB Group wants us to help them create a dashboard to track and analyze their HR (Human Resources) metrics.

Understanding the Problem

Age-Related Attrition

Create a chart to show how employee leaving rates differ across age groups

Education and Attrition Comparison

Display attrition percentages based on employees' educational backgrounds.

Salary and Attrition Relation

Illustrate attrition rates across different salary levels with a suitable bar chart

Gender-Based Attrition

Design a tree chart to compare attrition rates between genders

Job Role Attrition

Analyze attrition rates in various job roles using a bar chart

Company Tenure vs Attrition Trend

Develop an area trend chart to explore the relationship between employees' tenure and attrition rates

Project objective:

Our goal is to design a user-friendly 🖥️ Power BI dashboard that provides clear insights into employee retention and attrition.

Highlights

📊 Age-wise Attrition – Understand how attrition varies across different age groups.

🎓 Education & Leaving Rates – See the link between education levels and employee departures.

💰 Salary Influence on Attrition – Analyze how different pay scales affect employee turnover.

🚹🚺 Gender-wise Attrition Trends – Compare attrition rates between different genders.

🏢 Job Role Retention Analysis – Examine which job roles have higher or lower leaving rates.

⏳ Tenure vs. Attrition – Explore how long employees stay and how this impacts attrition.

WorkFlow

- Converting problem into requirements.
- Data Cleaning & Data Validation
- Transforming and Loading Data
- Creating Data Models
- Creating Visualisations
- Conclusion

Requirements :

- Understand how attrition varies across different age groups.
- See the link between education levels and employee departures.
- Analyze how different pay scales affect employee turnover.
- Compare attrition rates between different genders.
- Examine which job roles have higher or lower leaving rates.
- Explore how long employees stay and how this impacts attrition.

01

Attrition By Education Field

Attrition by Education Field

- Other 2
- Technical Degree 10
- Life Sciences 38
- Marketing 15
- Medical 19
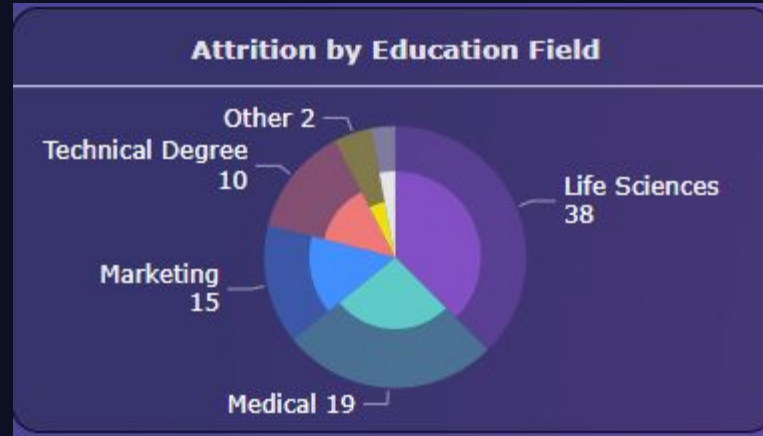
💡 Life Sciences majors lead in attrition with 38 exits, while Medical and Marketing have 19 and 15, respectively. Technical degrees show fewer losses at 10, indicating better retention in that group.

Attrition By Age Group

Attrition by Age Group

116

100

44   43

26

8

0

26-35   18-25   36-45   46-55   55+
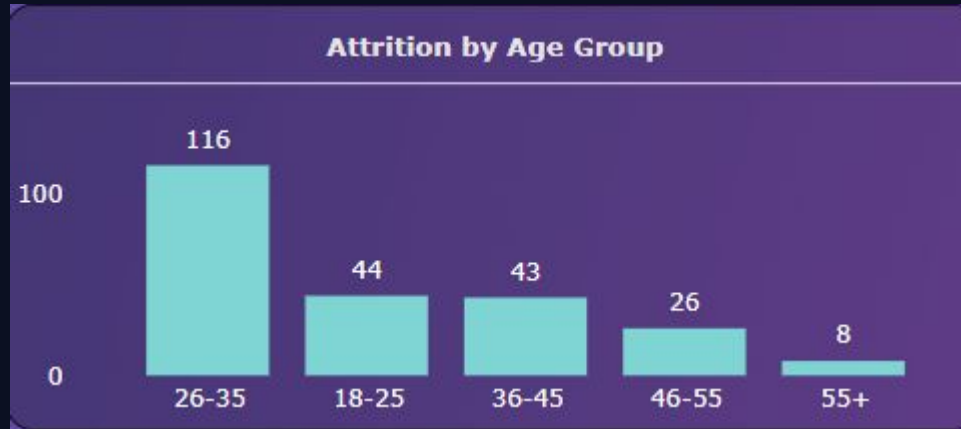
💡 It shows that employees aged 26-35 are leaving the most, with 116 departures. Those aged 18-25 and 36-45 have similar attrition rates, with 44 and 43 exits respectively. The 46-55 age group has a lower rate at 26, and the 55+ group has the least attrition, with only 8 departures.

03

Satisfaction By Job Role

JobRole	1	2	3	4	Total
Sales Representative	7	10	9	7	33
Sales Executive	16	9	18	14	57
Research Scientist	13	10	15	9	47
Research Director	0	1	1	0	2
Manufacturing Director	2	2	4	2	10
Manager	1	2	1	1	5
Total	66	46	73	52	237

💡 Sales Executives and Research Scientists experience the highest attrition at 57 and 47 respectively, while Manufacturing Directors and Managers show lower turnover. Overall, the company has seen 237 departures across various job roles.
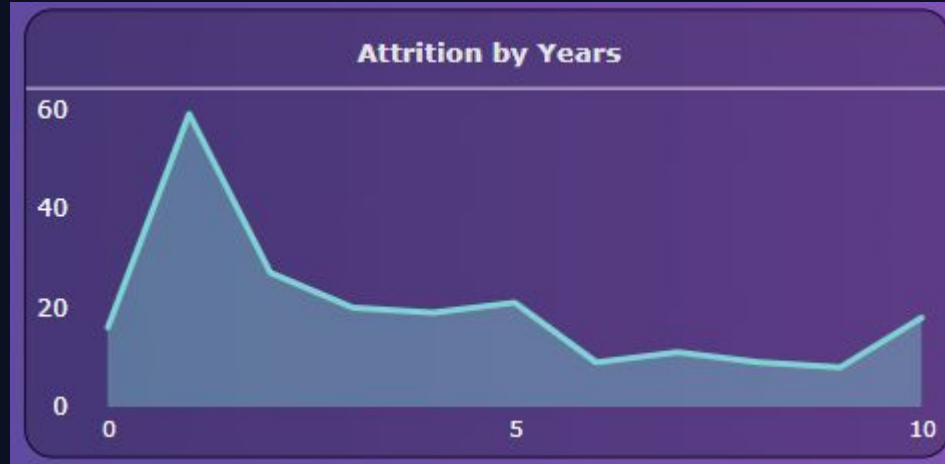
04

Attrition By Salary
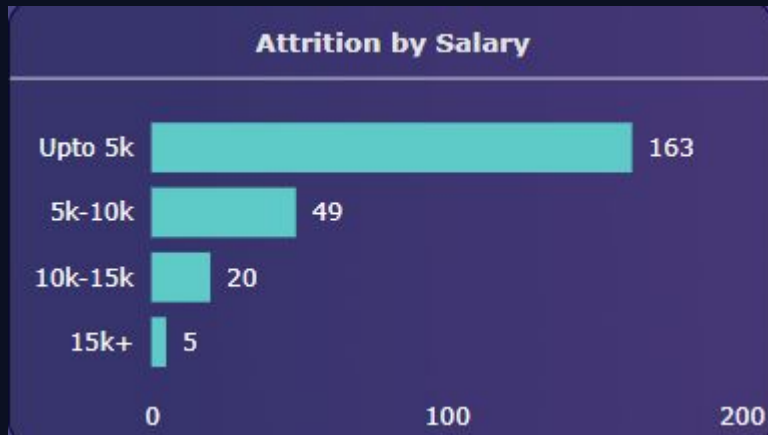
💡 Most employees who left earned up to 5k, while the fewest exits were among those earning over 15k, suggesting higher salaries may help retain staff.
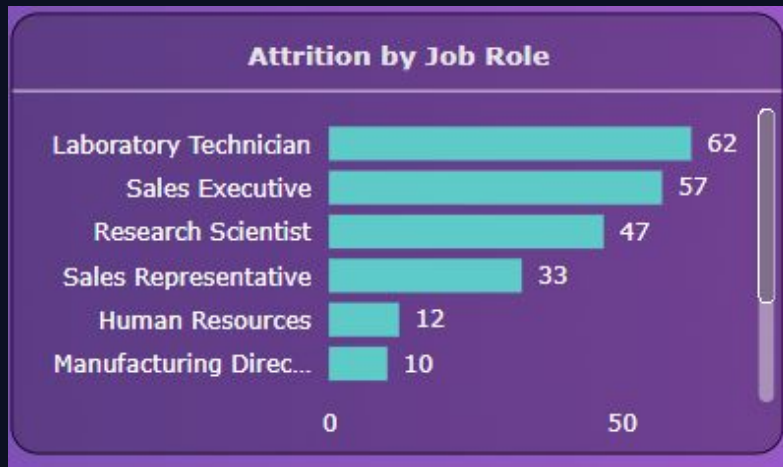
Attrition By Years

💡 Many employees quit after their first year, with fewer leaving as they stay longer at the company.

Attrition By Job Role

Attrition by Job Role

Job Role	Value
Laboratory Technician	62
Sales Executive	57
Research Scientist	47
Sales Representative	33
Human Resources	12
Manufacturing Direc...	10

💡 Laboratory Technicians and Sales Executives have the highest numbers of departures, while Human Resources and Manufacturing roles see much fewer people leaving.

HR ANALYTICS – VISUALS
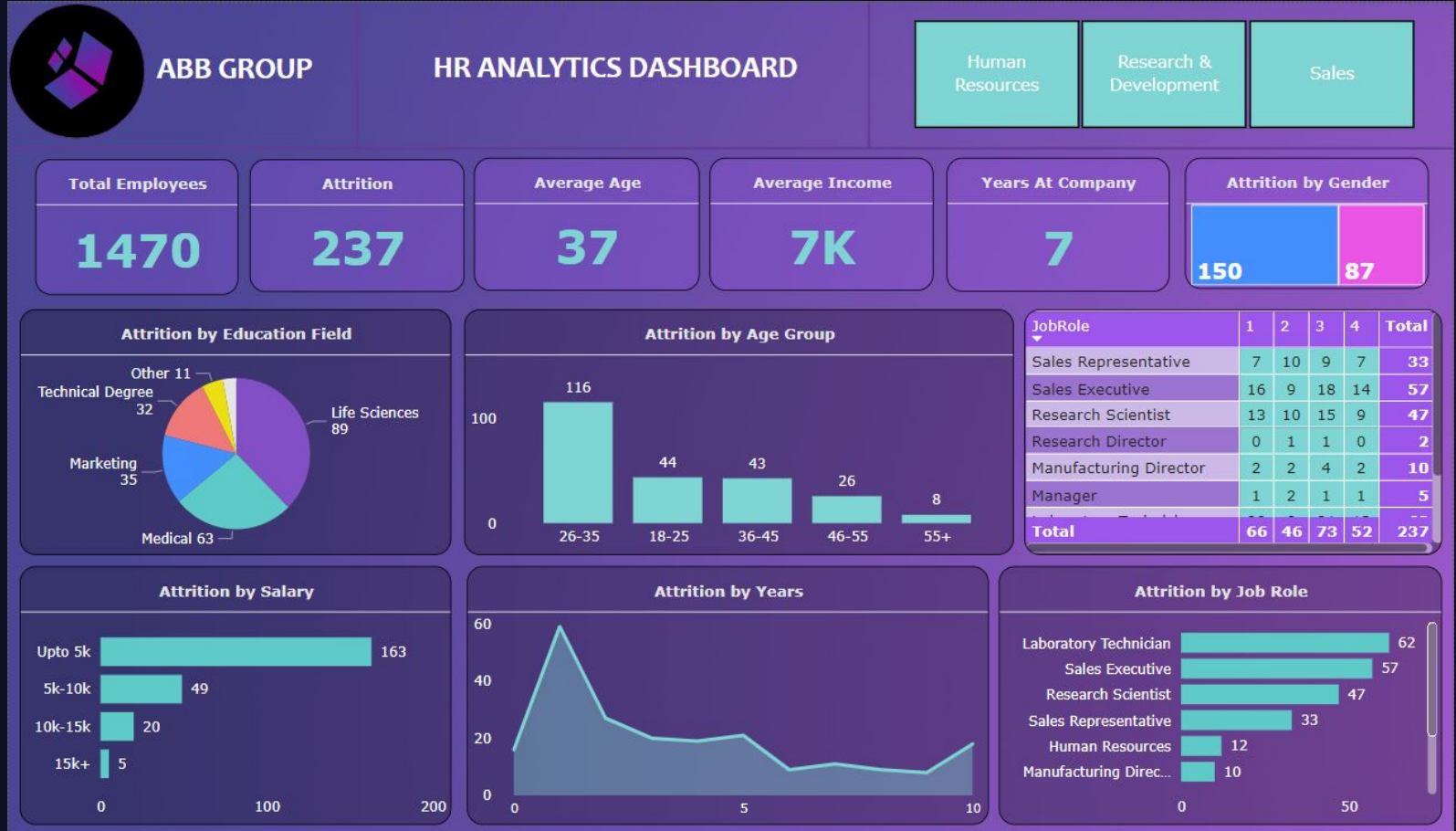
Conclusion:

- **Age Impact 📈:** Employees aged 26-35 👨👩 are the most likely to leave, with attrition declining 📉 in older age groups.

- **Education Influence 🎓:** Those with Life Sciences education 🧬 have the highest attrition, while technical degree holders 🛠️ seem to stay longer.

- **Salary Factor 💸:** Lower salary brackets 💵 see higher attrition, suggesting a link between pay and employee retention.

- **Job Role Turnover 🔄:** Laboratory Technicians 🔬 and Sales roles 💼 have the highest turnover, whereas Manufacturing Directors 🏭 and HR roles 👥 are more stable.

- **Years at Company ⏳:** There's a high turnover within the first year 📅, with a significant drop as tenure increases.

- **Overall Attrition 📊:** Across various dimensions—age, education, salary, job role, and tenure—there are clear patterns 🧩 that can inform retention strategies. Lower salaries 💰, certain educational backgrounds 📚, and specific job roles 🖥️, especially in the early years at the company, are associated with higher attrition rates.
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The Team

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Power BI

Excel-Power Query Editor

Python