

Attrition Analytics Dashboard on Power BI

“Project Report”

Submitted by

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Executive Summary:

A dashboard is a powerful analytical tool used for examining various aspects of a given dataset in a visualized manner. Power BI is a tool to do so with greater efficiency. The following project aims to provide a comprehensive analysis of the attrition rate within the company using a Power BI dashboard. The dashboard offers valuable insights into employee turnover, allowing the organization to understand the factors contributing to attrition and make informed decisions for retention strategies.

Introduction:

In today's business world, it's important for companies to understand why employees leave their jobs. This is called "attrition." When people leave, it can affect how well the company does.

This project is about using a special tool called a Power BI dashboard to help understand and solve the attrition puzzle. The dashboard takes information from different places in the company, like HR files, and turns it into easy-to-understand pictures. These pictures show things like why people leave, which parts of the company have more people leaving, and even what might happen in the future.

By looking at this dashboard, the company can learn how to keep its employees happy, work better together, and have a strong team. The report will explain how we made this special dashboard, where we got the information, and what we learned from it. The goal is to help the company keep its talented employees and do well in the long run.

Project Objective:

The main goal of this project is to create a Power BI dashboard focused on HR analytics to help the company better understand and address employee attrition. By analyzing factors influencing attrition and presenting insights through visualizations, the project aims to equip decision-makers with valuable information for implementing effective retention strategies, fostering employee engagement, and ultimately enhancing the company's overall performance and sustainability.

Methodology:

Step 1: Uploading the dataset.

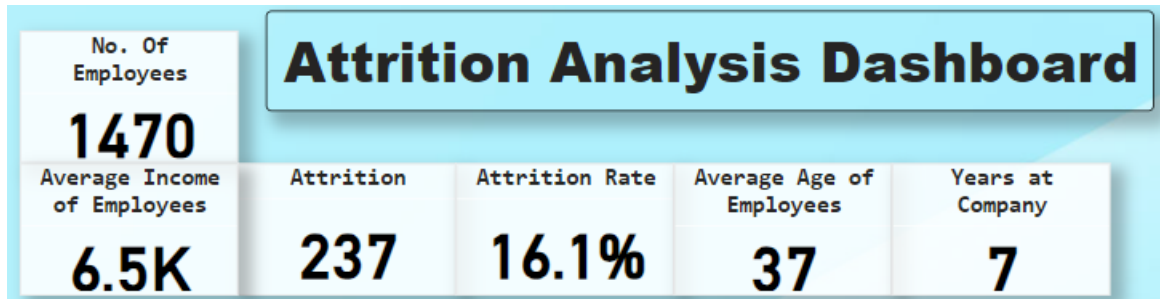
The screenshot displays the Power Query Editor interface. The main area shows a table with columns: EmpID, Age, AgeGroup, Attrition, BusinessTravel, DailyRate, and Department. The table contains 25 rows of data. The status bar at the bottom indicates 37 columns and 999+ rows. The right-hand pane shows the 'Query Settings' for 'HR_Analytics', including the 'Properties' and 'Applied Steps' sections.

EmpID	Age	AgeGroup	Attrition	BusinessTravel	DailyRate	Department
1	RM297	18-25	Valid	Travel_Rarely	230	Research & D
2	RM302	18-25	Valid	Travel_Rarely	812	Sales
3	RM458	18-25	Valid	Travel_Frequently	1306	Sales
4	RM728	18-25	Valid	Non-Travel	287	Research & D
5	RM829	18-25	Valid	Non-Travel	247	Research & D
6	RM973	18-25	Valid	Non-Travel	1124	Research & D
7	RM1154	18-25	Valid	Travel_Frequently	544	Sales
8	RM1312	18-25	Valid	Non-Travel	1431	Research & D
9	RM128	19-25	Valid	Travel_Rarely	528	Sales
10	RM150	19-25	Valid	Travel_Rarely	1181	Research & D
11	RM172	19-25	Valid	Travel_Frequently	602	Sales
12	RM178	19-25	Valid	Non-Travel	303	Research & D
13	RM423	19-25	Valid	Travel_Rarely	489	Human Resou
14	RM689	19-25	Valid	Travel_Rarely	419	Sales
15	RM854	19-25	Valid	Travel_Rarely	645	Research & D
16	RM893	19-25	Valid	Non-Travel	504	Research & D
17	RM910	19-25	Valid	Travel_Rarely	265	Research & D
18	RM103	20-25	Valid	Travel_Frequently	871	Research & D
19	RM488	20-25	Valid	Travel_Rarely	959	Research & D
20	RM514	20-25	Valid	Travel_Rarely	1362	Research & D
21	RM663	20-25	Valid	Travel_Rarely	500	Sales
22	RM690	20-25	Valid	Travel_Rarely	129	Research & D
23	RM732	20-25	Valid	Travel_Rarely	1097	Research & D
24	RM777	20-25	Valid	Travel_Frequently	769	Sales
25	RM777	20-25	Valid	Travel_Frequently	769	Sales

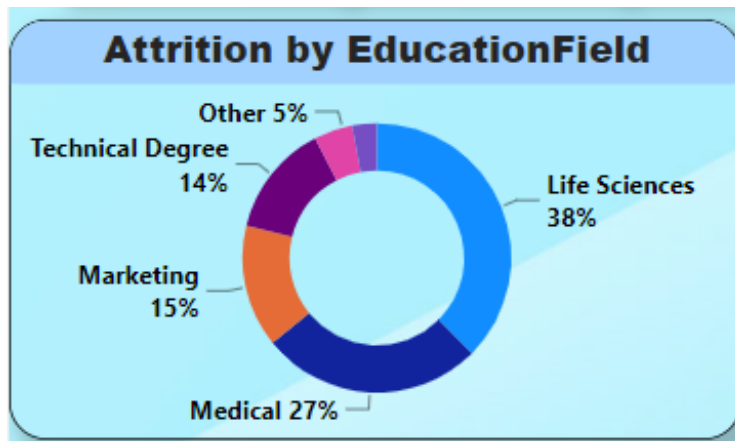
Step 2: Cleaning the dataset.

The screenshot displays the Power Query Editor interface, showing the same dataset as in Step 1. The 'Applied Steps' pane on the right shows the following steps: Source, Promoted Headers, Removed Columns, Removed Duplicates, Replaced Value, Changed Type, Replaced Value1, Replaced Value2, Changed Type1, Replaced Value3, and Changed Type2. The 'Properties' pane shows the query name 'HR_Analytics'.

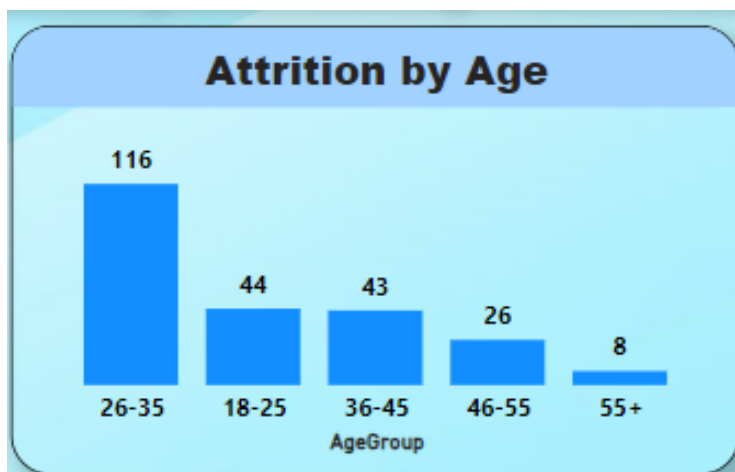
Step 3: Creating number cards for Attrition Count, Attrition Rate, No. of Employees, Average Income, Average age of employees, Average years at company.



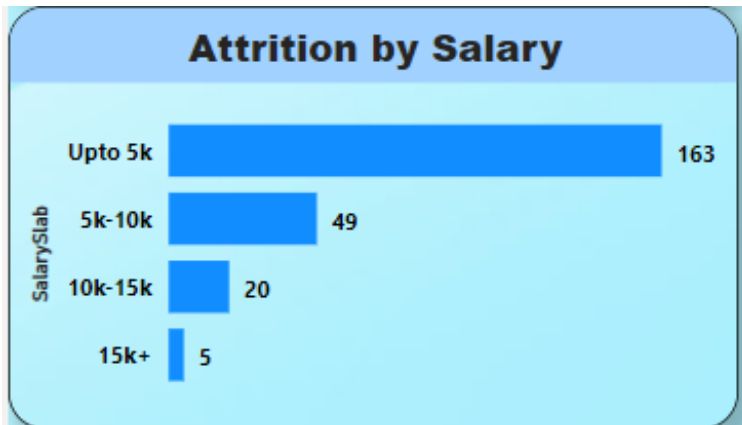
Step 4: Creating a donut plot for attrition by education field.



Step 5: Creating a bar plot for attrition by age.



Step 6: Creating a horizontal bar plot for Attrition by salary.



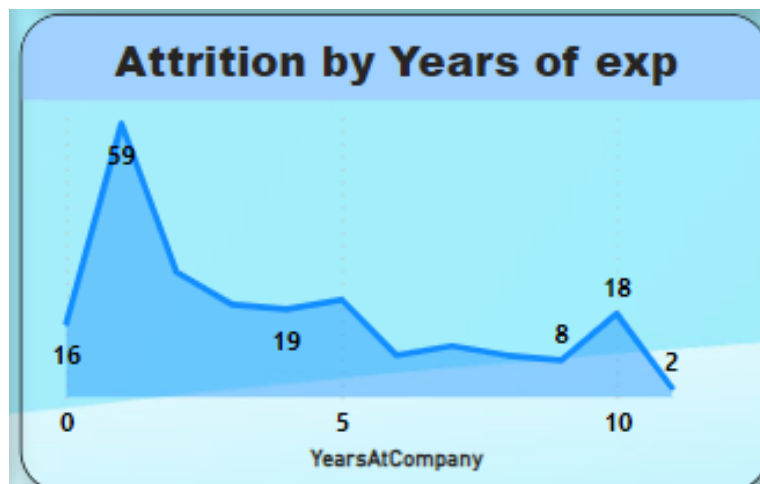
Step 7: Creating a horizontal bar plot for Attrition by Job Role.



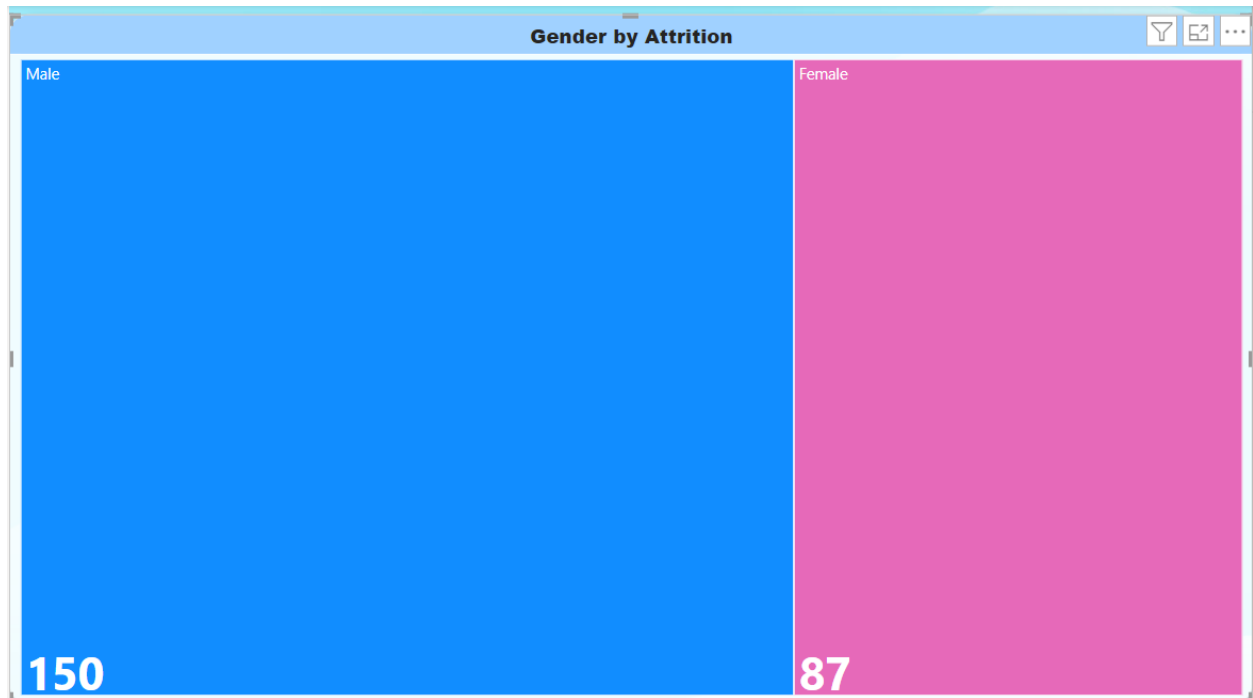
Step 8: Creating an Attrition table.

Attrition Table					
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
Laboratory Technician	20	8	21	13	62
Human Resources	5	2	3	2	12
Total	66	46	73	52	237

Step 9: Creating an area chart for Attrition by work experience.



Step 10: Creating a Tree Map to show Attrition by Gender.



Step 11: Creating a Slicer for switching data visuals between different departments.



Results and analysis:

1. The cards show there are a total of 1470 employees in the company with an attrition rate of 16.1%.
2. The first donut plot which represents attrition by education field shows that employees which belong to Life Sciences that is 38% is the highest turnover ratio.
3. The second is a bar plot which represents attrition by age group which shows that employees between age-group 26-35 have the highest turnover ratio. Let's analyze further.
4. The next plot is also a horizontal bar plot that depicts attrition by salary and here we can see the employees whose salary is under \$6K are more likely to leave the company compared to any other salary slab. So low salaries have turned out to be the first point of concern.
5. The next plot is also a horizontal bar plot that depicts attrition by job role and here we can see the employees who are in the position of laboratory technician are most likely to turnout. This may be due to poor laboratory conditions, lots of workloads, etc.
6. The area chart which shows attrition by work experience tells us that people are mostly leaving after just 1 years of work experience.

Conclusion:

In culmination, the Power BI dashboard project has illuminated the intricacies of employee attrition through insightful data analysis and visualization. By uncovering attrition patterns, reasons for departure, and predictive indicators, the project equips the company with a proactive toolkit for targeted retention strategies and enhanced workforce engagement. The successful execution of the dashboard not only underscores the transformative potential of data-driven HR practices but also establishes a foundation for sustained organizational growth and improved performance, ensuring a brighter and more resilient future for the company.