

EMPLOYEE ATTRITION

INTRODUCTION

- XYZ Company has been facing a concerning attrition rate of around 15% over the past few years, significantly impacting various aspects of its operations. High employee turnover can lead to increased recruitment costs, loss of valuable knowledge, and decreased morale among remaining employees. To address this issue, XYZ Company has sought the expertise of an HR analytics consultancy to analyze employee data and uncover the underlying factors contributing to attrition. By understanding these factors, the company aims to implement targeted strategies to reduce turnover and retain valuable talent.
- In this project, I am taking on the role of an HR analyst to thoroughly investigate the employee attrition patterns at XYZ Company. Using a dataset containing detailed information about employees, including their demographics, job roles, and work experiences, I will conduct a comprehensive analysis to identify key drivers of attrition. The findings from this analysis will be used to create a data-driven dashboard, providing the organization with actionable insights to improve employee retention and foster a more stable and satisfied workforce.

OBJECTIVE

- The objective of this project is to analyze employee data to identify key factors contributing to the high attrition rate at XYZ Company, and to provide actionable insights and recommendations that will help the company reduce turnover and improve employee retention.

MAIN KPIs

- Overall Attrition Rate
- Attrition Rate by Department
- Attrition Rate by Job Role
- Attrition Rate by Age Group
- Attrition Rate by Gender
- Average Tenure of Employees
- Job Satisfaction Score
- Environment Satisfaction Score
- Attrition Rate
- Employee Satisfaction
- Average Monthly Income
- Job Role Attrition Rate

POWER BI DASHBOARD

The dashboard will allow users to explore these metrics in detail, compare attrition rates across different segments, and derive actionable insights to help XYZ Company reduce its attrition rate and enhance overall employee satisfaction.

EMPLOYEE ATTRITION

Job Role

All

Education Field

All

Department

All

4410

Total Employees

16.12%

Attrition Rate

65.03K

Average Monthly Income

7.01

Average of Years At Company

5.13

Average Tenure (Attrition)

61.68K

Average Monthly Income (Attrition)

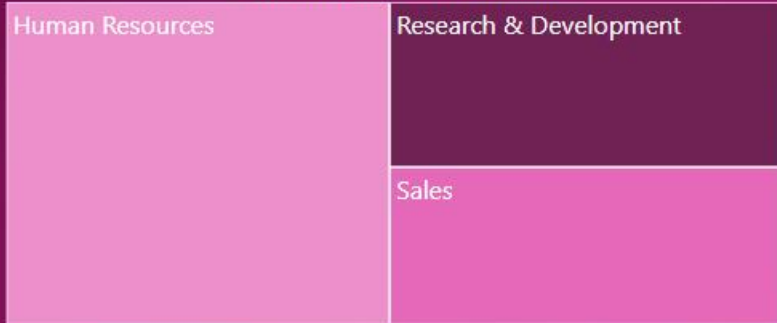
711

Attrition Count

36.92

Average of Age

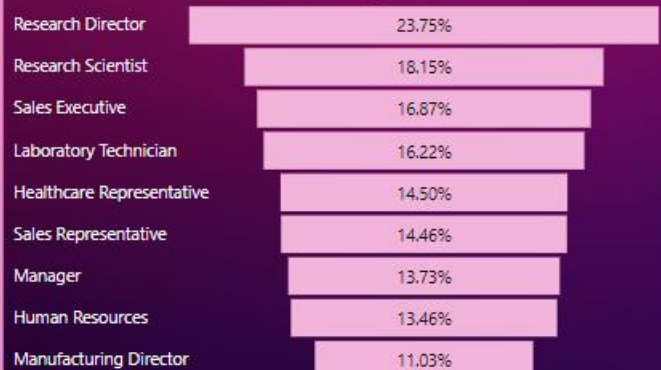
Attrition Rate by Department



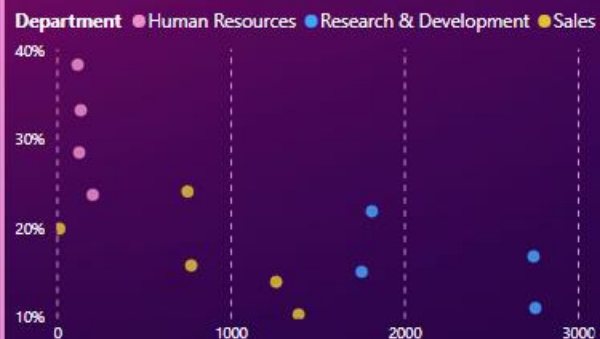
Sum of Monthly Income by Job Role



Attrition Rate by Job Role



Sum of Performance Rating and Attrition Rate by Job Satisfaction and Department

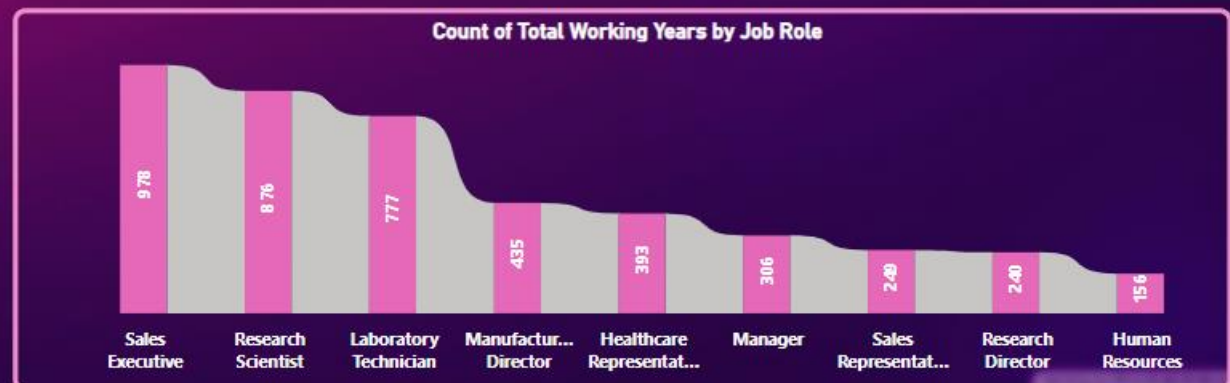
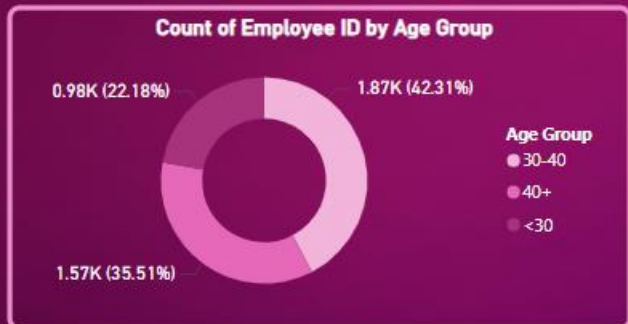


Average Tenure Attrition by Average of Years At Company

● Average Tenure (Attrition) ● Average of YearsAtCompany



JobRole	Sum of MonthlyIncome
Healthcare Representative	23.97M
Human Resources	9.13M
Laboratory Technician	51.53M
Manager	19.40M
Manufacturing Director	30.09M
Research Director	15.71M
Research Scientist	56.92M
Sales Executive	63.75M
Sales Representative	16.28M



MY SQL

The analysis will provide XYZ Company with insights into the main drivers of employee attrition and recommend strategies to enhance employee retention, thereby improving overall organizational stability and performance.


```

1 • SELECT * FROM employee_attrition.`attrition data`;
2
3 • use employee_attrition;
4
5 • select count(*) from attrition_data;
6
7 -- 1. Overall Attrition Rate
8 • SELECT (SUM(CASE WHEN Attrition = 'Yes' THEN 1 ELSE 0 END) / COUNT(*)) * 100 AS Overall_Attrition_Rate
9 FROM attrition_data;
10
11 -- 2. Average Tenure of Employees Who Left
12 • SELECT AVG(YearsAtCompany) AS Avg_Tenure_Leaving
13 FROM attrition_data
14 WHERE Attrition = 'Yes';
15
16 -- 3. Attrition Rate by Department

```

 Result Grid
  Filter Rows:
 Export: 
 Wrap Cell Content: 

	Overall_Attrition_Rate
▶	16.1224

```

16  -- 3. Attrition Rate by Department
17  • SELECT Department,
18      (SUM(CASE WHEN Attrition = 'Yes' THEN 1 ELSE 0 END) / COUNT(*)) * 100 AS Attrition_Rate
19  FROM attrition_data
20  GROUP BY Department;
21
22  -- 4. Attrition Rate by Job Role
23  • SELECT JobRole,
24      (SUM(CASE WHEN Attrition = 'Yes' THEN 1 ELSE 0 END) / COUNT(*)) * 100 AS Attrition_Rate
25  FROM attrition_data

```

Result Grid   Filter Rows: | Export:  | Wrap Cell Content: 

	Department	Attrition_Rate
▶	Sales	15.0224
	Research & Development	15.7128
	Human Resources	30.1587

```

22  -- 4. Attrition Rate by Job Role
23  • SELECT JobRole,
24      (SUM(CASE WHEN Attrition = 'Yes' THEN 1 ELSE 0 END) / COUNT(*)) * 100 AS Attrition_Rate
25  FROM attrition_data
26  GROUP BY JobRole;
27
28  -- 5. Average Age of Employees Leaving
29  • SELECT AVG(Age) AS Avg_Age_Leaving
30  FROM attrition_data
31  WHERE Attrition = 'Yes';
32
33  -- 6. Average Monthly Income of Employees Leaving
34  • SELECT AVG(MonthlyIncome) AS Avg_Income_Leaving

```

Result Grid |   Filter Rows: | Export:  | Wrap Cell Content: 

	JobRole	Attrition_Rate
▶	Healthcare Representative	14.5038
	Research Scientist	18.1507
	Sales Executive	16.8712
	Human Resources	13.4615
	Research Director	23.7500
	Laboratory Technician	16.2162
	Manufacturing Director	11.0345
	Sales Representative	14.4578

```

38  -- 7. Attrition Rate by Gender
39  • SELECT Gender,
40      (SUM(CASE WHEN Attrition = 'Yes' THEN 1 ELSE 0 END) / COUNT(*)) * 100 AS Attrition_Rate
41  FROM attrition_data
42  GROUP BY Gender;
43
44  -- 8. Attrition Rate by Marital Status
45  • SELECT MaritalStatus,
46      (SUM(CASE WHEN Attrition = 'Yes' THEN 1 ELSE 0 END) / COUNT(*)) * 100 AS Attrition_Rate

```

<

Result Grid   Filter Rows: | Export:  | Wrap Cell Content: 

	Gender	Attrition_Rate
▶	Female	15.3061
	Male	16.6667

PYTHON

The Python-based approach ensures a thorough, data-driven examination of the factors influencing employee turnover, enabling XYZ Company to make informed decisions to enhance employee satisfaction and organizational stability.

```
# Attrition Rate
attrition_rate = (df['Attrition'].value_counts(normalize=True) * 100).get('Yes', 0)
print(f"Attrition Rate: {attrition_rate:.2f}%")
```

Python

Attrition Rate: 16.12%

```
# Average Age of Employees
average_age = df['Age'].mean()
print(f"Average Age of Employees: {average_age:.2f} years")
```

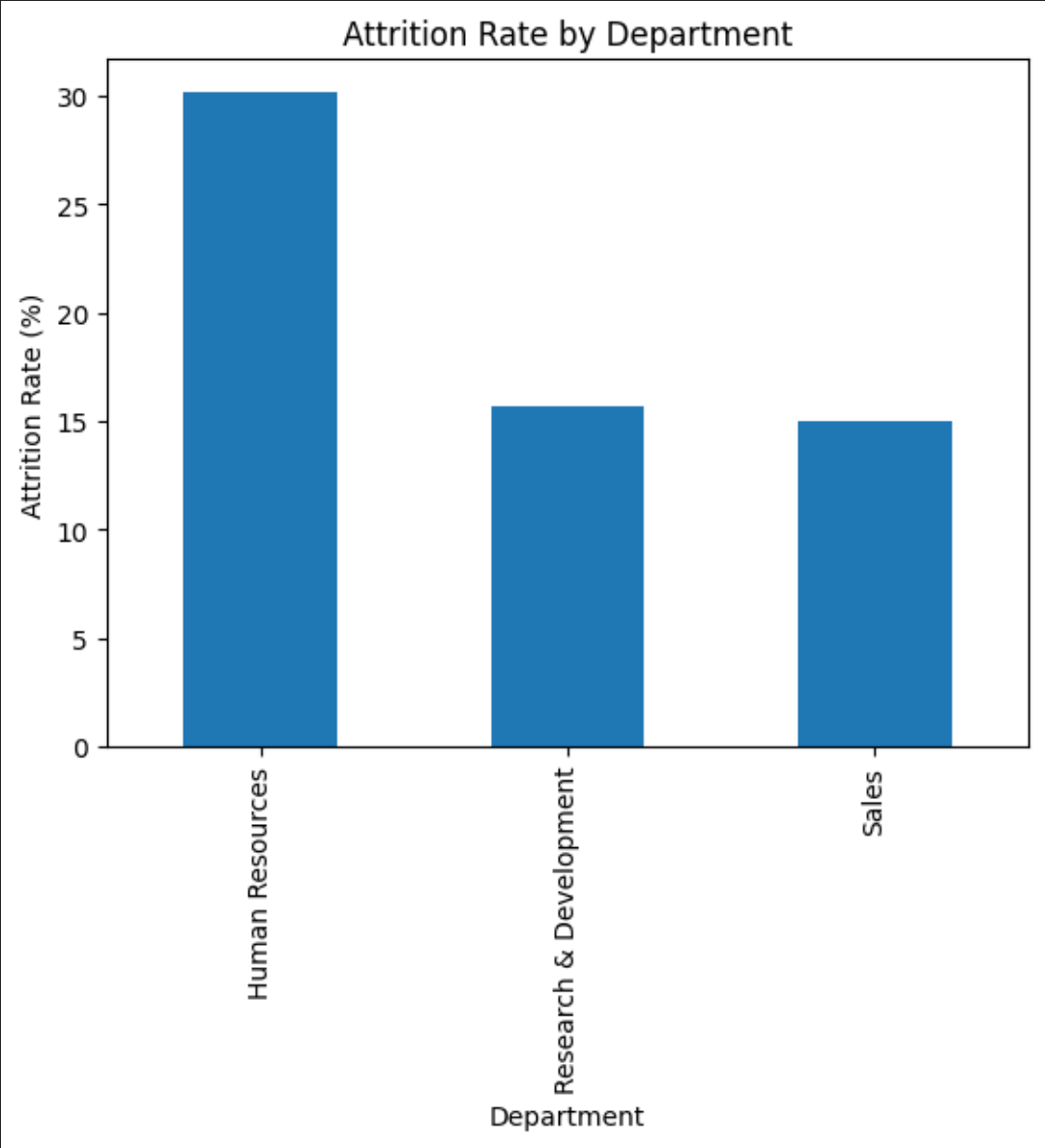
Python

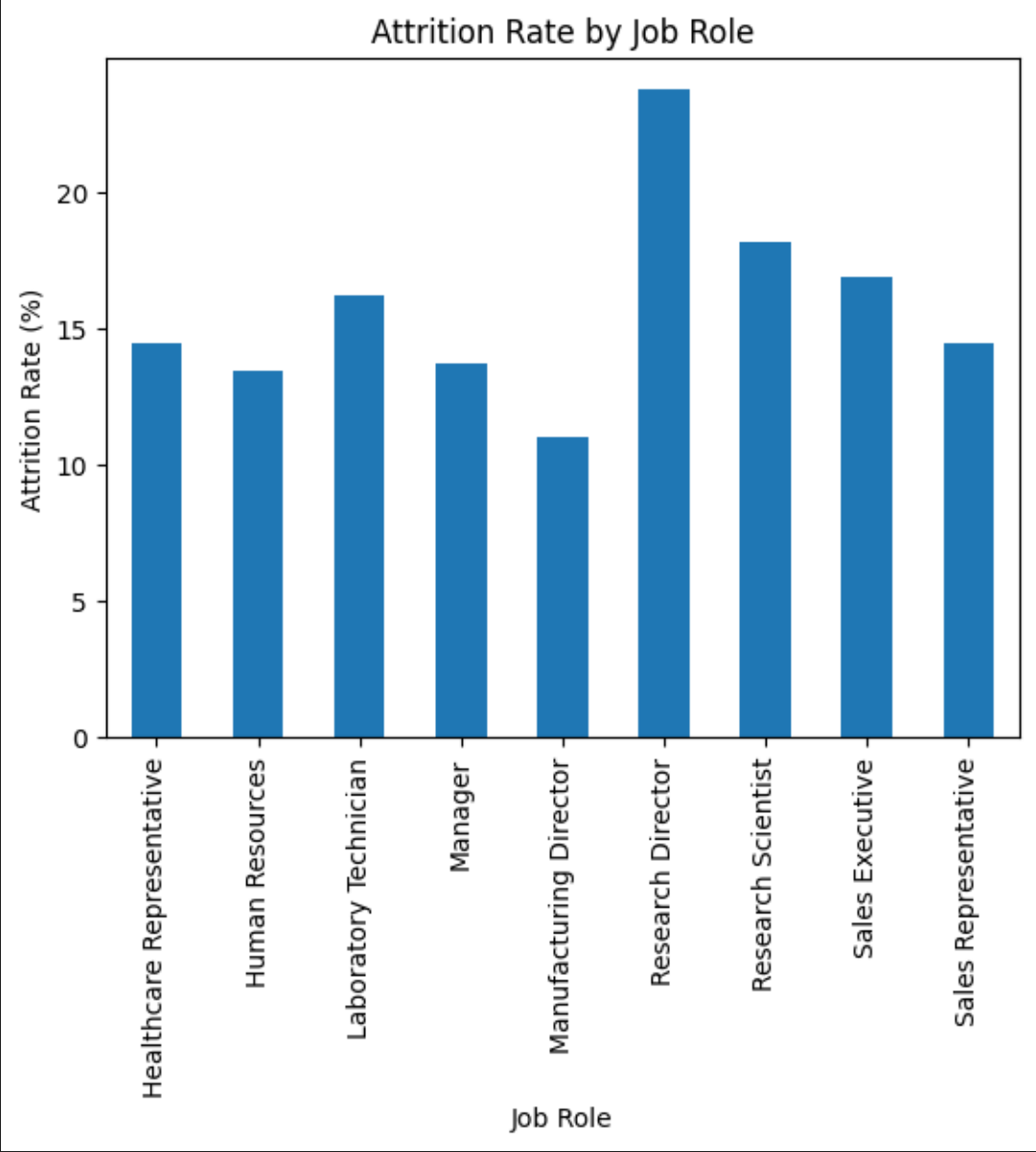
Average Age of Employees: 36.92 years

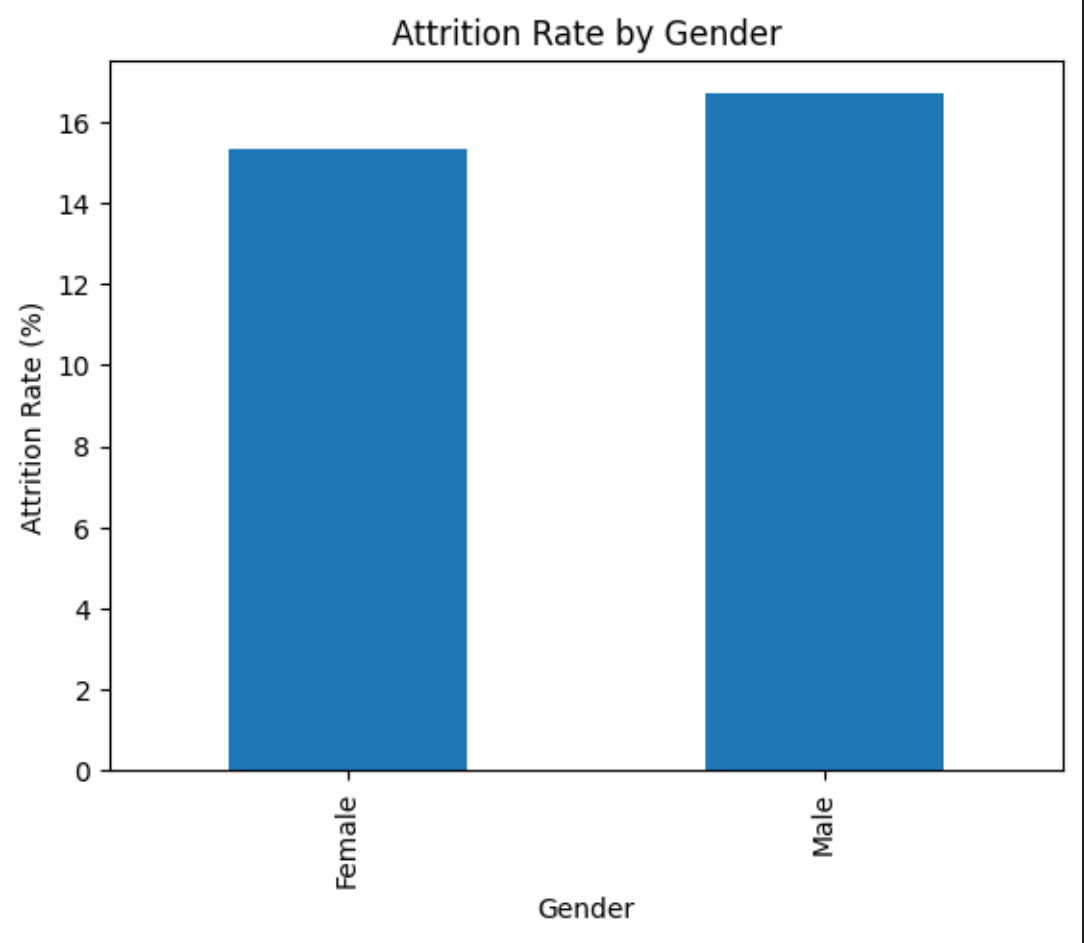
```
# Average Monthly Income
average_monthly_income = df['MonthlyIncome'].mean()
print(f"Average Monthly Income: ${average_monthly_income:.2f}")
```

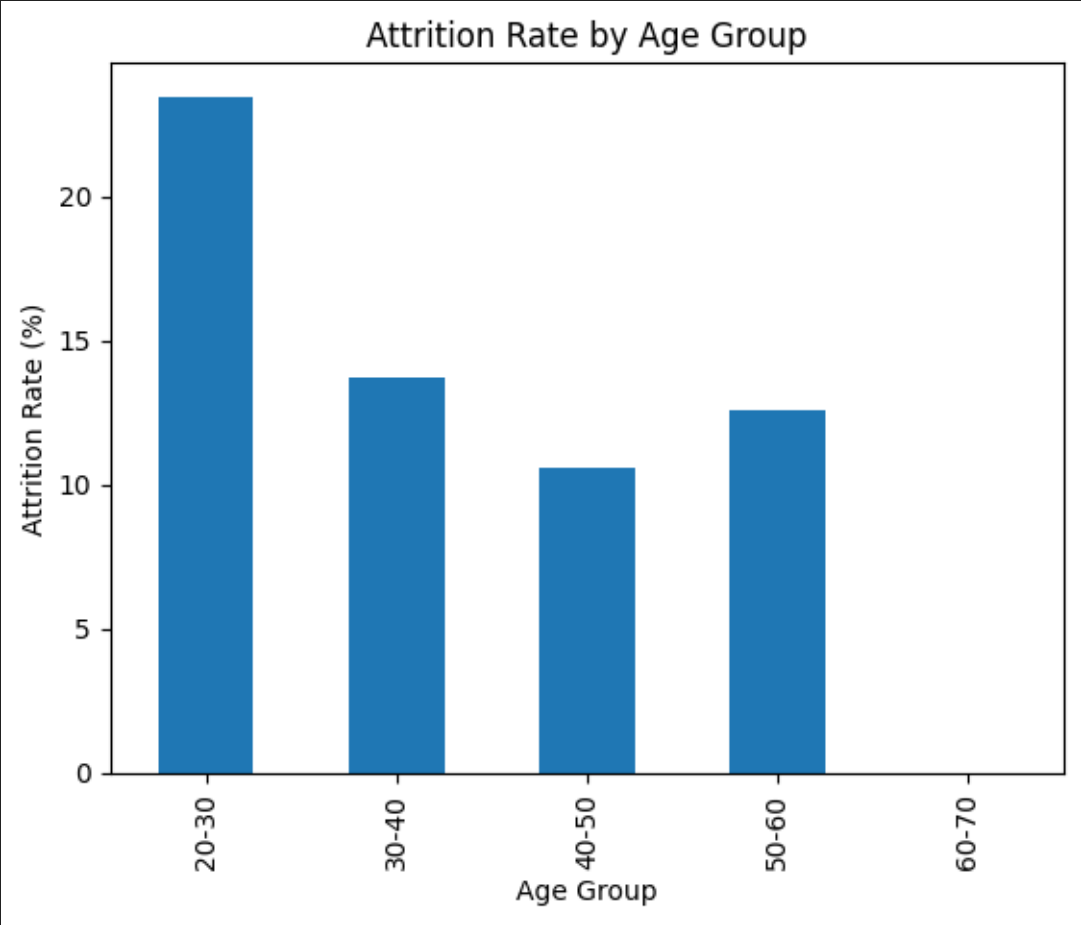
Python

Average Monthly Income: \$65029.31









CONCLUSION

- The analysis of XYZ Company's employee data has provided valuable insights into the factors contributing to the organization's 15% attrition rate. Key findings indicate that factors such as job role, department, business travel frequency, distance from home, and years since last promotion significantly influence employee turnover. Additionally, aspects like job involvement, work-life balance, and satisfaction levels play a crucial role in employee retention.
- By addressing these factors through targeted interventions, XYZ Company can reduce its attrition rate and foster a more engaged and satisfied workforce. Implementing strategies such as improving work-life balance, offering career growth opportunities, and enhancing employee satisfaction across various departments will be vital in retaining top talent.
- The interactive dashboard created as part of this project will enable XYZ Company to continuously monitor these key indicators and make data-driven decisions aimed at reducing attrition. By leveraging these insights, the company can not only lower turnover rates but also enhance overall organizational performance and employee well-being.

VISIT FOR DETAILED PROJECT



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