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Employee Attrition Analysis – Green Destinations

1. Objective

Green Destinations has noticed a recent increase in employee attrition. This report aims to:

- Calculate the current attrition rate.
- Explore the relationship between attrition and key factors:
  - Age
  - Years at Company
  - Monthly Income

The insights will help HR identify trends and recommend strategies to reduce attrition.

```
from google.colab import files
uploaded = files.upload()
```


```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt

df = pd.read_csv("greendestination (1).csv")
df.head()
```

	Age	Attrition	BusinessTravel	DailyRate	Department	DistanceFromHome	Education	EducationField	EmployeeCount	EmployeeNumber	...	RelationshipSatisfaction	StandardHo
0	41	Yes	Travel_Rarely	1102	Sales	1	2	Life Sciences	1	1	...	1	
1	49	No	Travel_Frequently	279	Research & Development	8	1	Life Sciences	1	2	...	4	
2	37	Yes	Travel_Rarely	1373	Research & Development	2	2	Other	1	4	...	2	
3	33	No	Travel_Frequently	1392	Research & Development	3	4	Life Sciences	1	5	...	3	
4	27	No	Travel_Rarely	591	Research & Development	2	1	Medical	1	7	...	4	

5 rows × 35 columns

2. Attrition Rate

This section calculates the percentage of employees who have left the company.

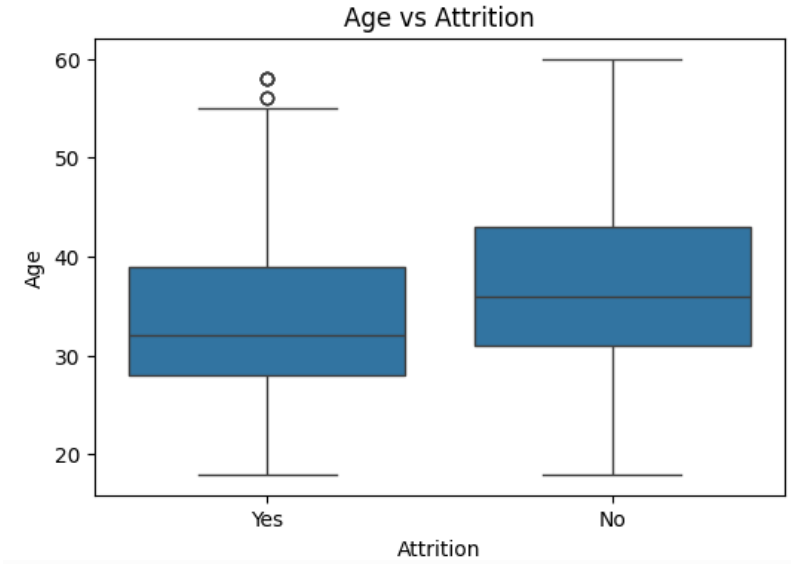
```
attrition_rate = df['Attrition'].value_counts(normalize=True).get('Yes', 0) * 100
print(f"Attrition Rate: {attrition_rate:.2f}%")
```

```
Attrition Rate: 16.12%
```

3. Age vs Attrition

We analyze whether age plays a role in the likelihood of leaving the company.

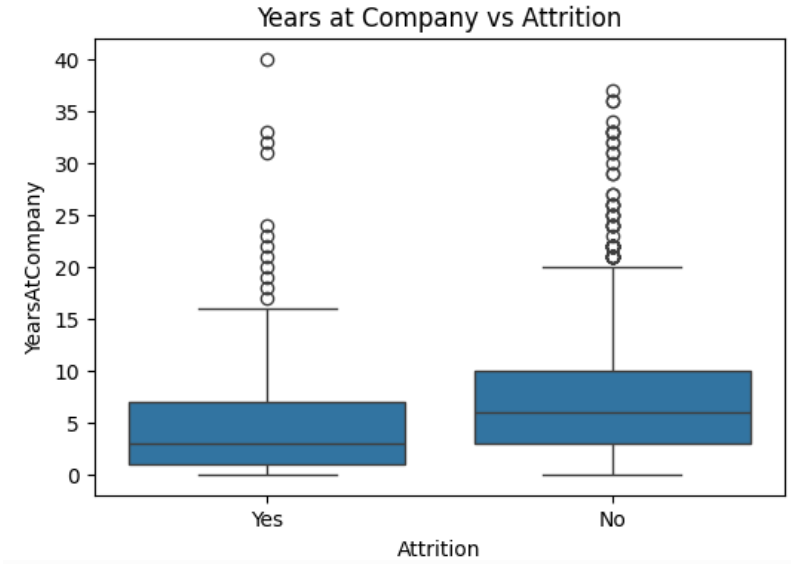
```
plt.figure(figsize=(6, 4))
sns.boxplot(x='Attrition', y='Age', data=df)
plt.title("Age vs Attrition")
plt.show()
```



4. Years at Company vs Attrition

This section explores whether employees with fewer years at the company are more likely to leave.

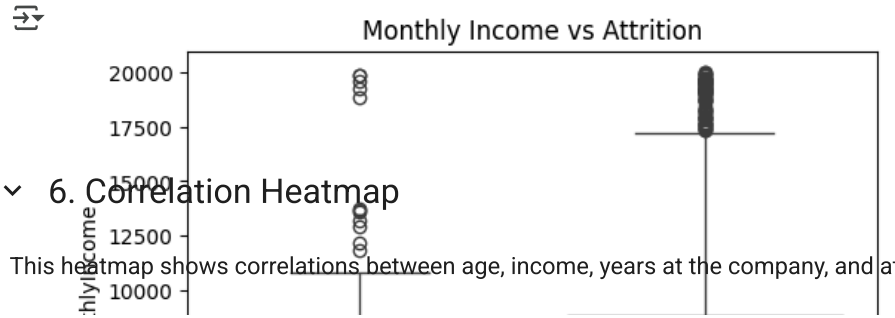
```
plt.figure(figsize=(6, 4))
sns.boxplot(x='Attrition', y='YearsAtCompany', data=df)
plt.title("Years at Company vs Attrition")
plt.show()
```



5. Monthly Income vs Attrition

Here we examine if income level influences attrition.

```
plt.figure(figsize=(6, 4))
sns.boxplot(x='Attrition', y='MonthlyIncome', data=df)
plt.title("Monthly Income vs Attrition")
plt.show()
```

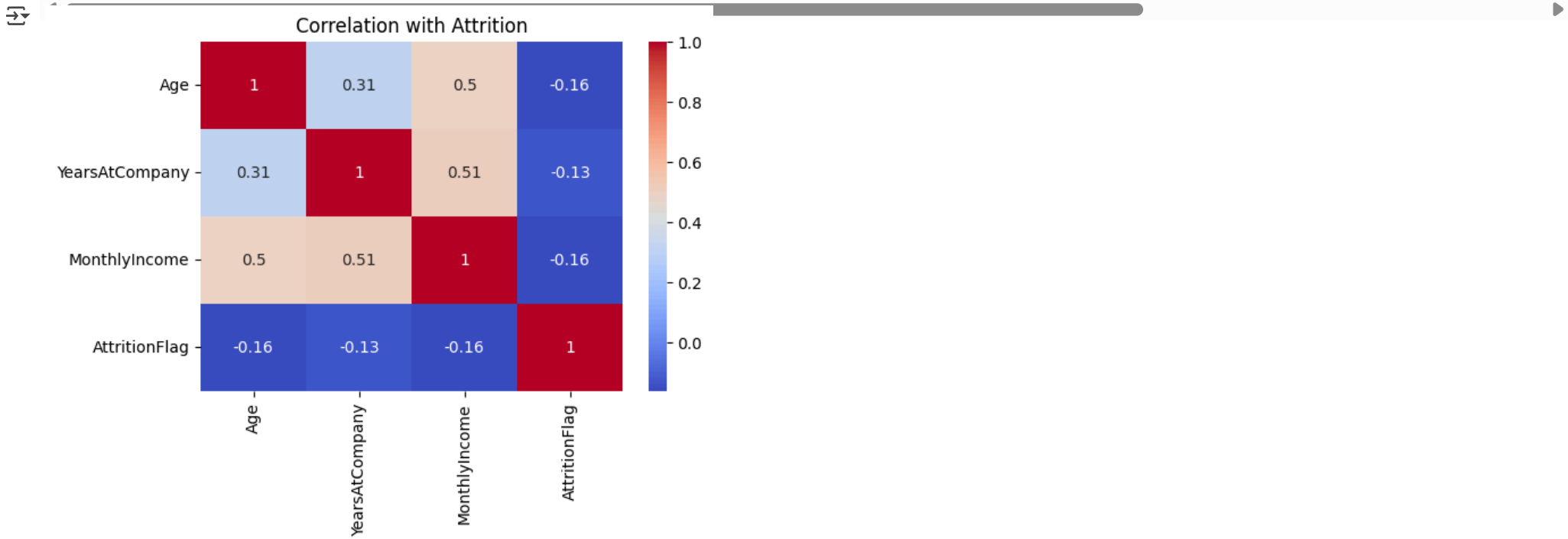


6. Correlation Heatmap

This heatmap shows correlations between age, income, years at the company, and attrition.

```
df['AttritionFlag'] = df['Attrition'].map({'Yes': 1, 'No': 0})
corr = df[['Age', 'YearsAtCompany', 'MonthlyIncome', 'AttritionFlag']].corr()

plt.figure(figsize=(6, 4))
sns.heatmap(corr, annot=True, cmap='coolwarm')
plt.title("Correlation with Attrition")
plt.show()
```



7. Final Insights & Recommendations