Job Report Analysis

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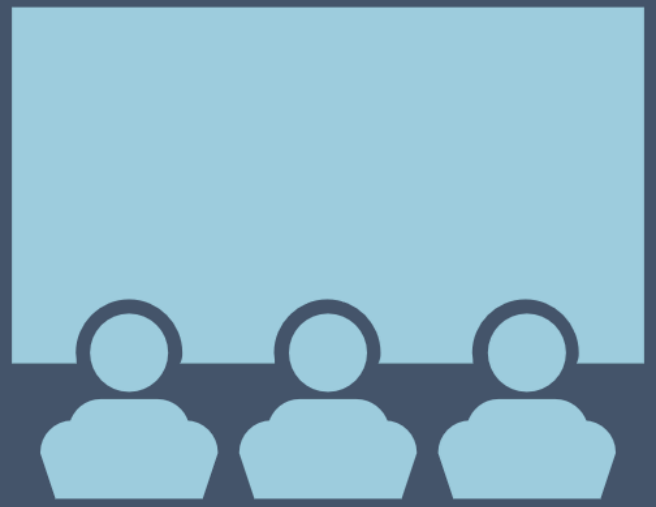

Outline

- Executive Summary
- Introduction
- Methodology
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- Conclusion
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Executive Summary

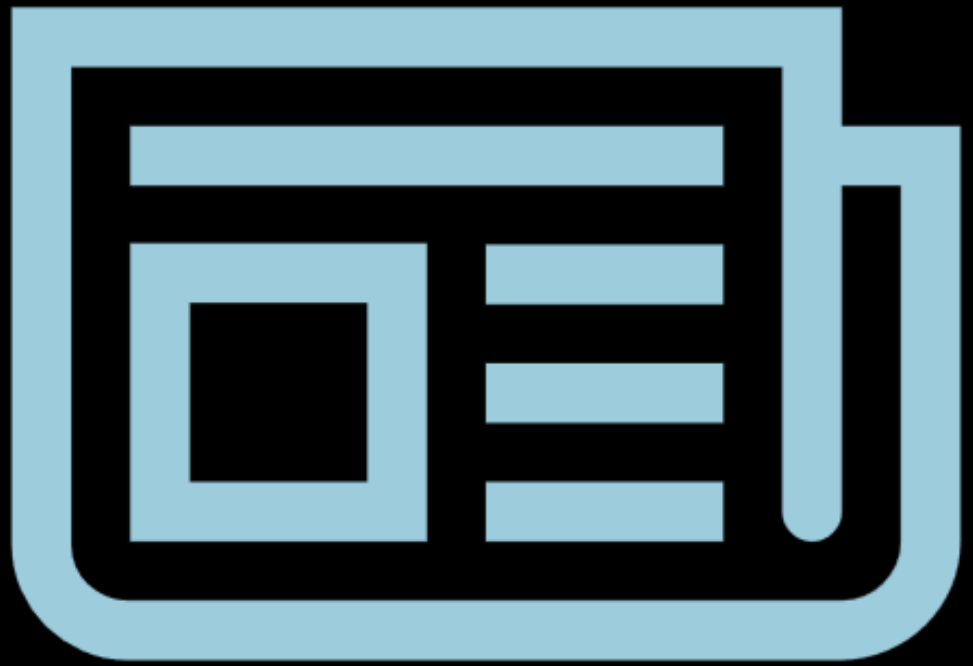
- This report shows the detailed job analysis conducted to determine the cost allotted for each job or task assigned in the company. Recommendations are also included in the report.

Introduction

- The report centralized on the study on varying tasks which corresponded to the execution of the costs and strategies from the third quarter of 2025.

Methodology

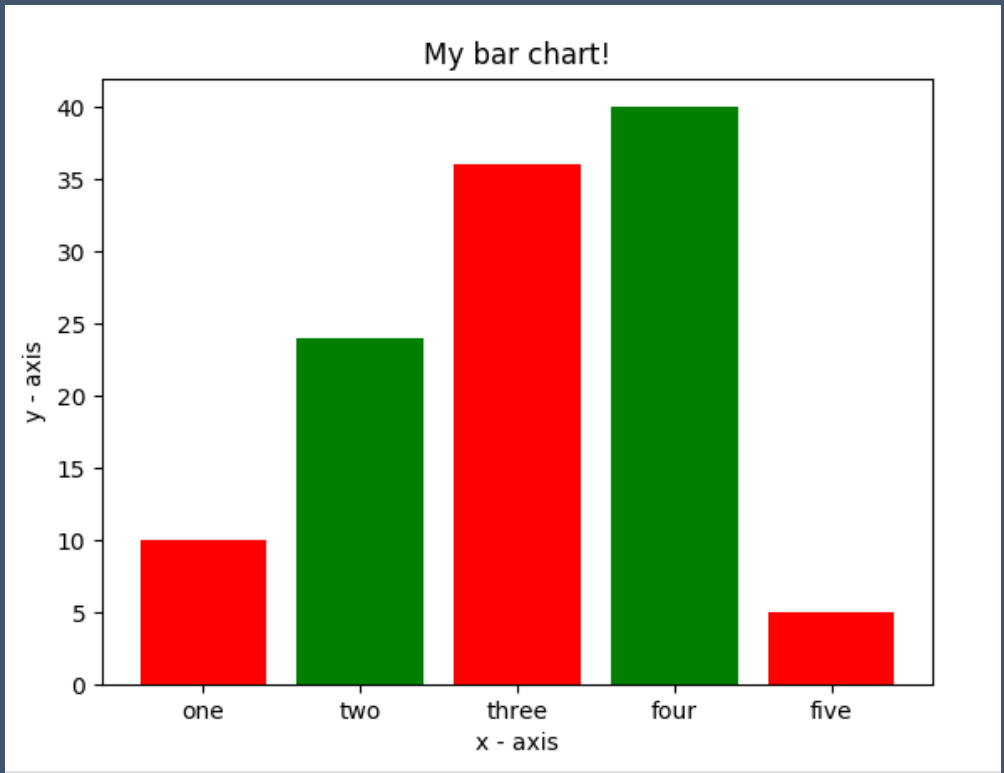
- Data collection methodology:
- Describe how data were collected
- Perform data wrangling
- Describe how data were processed
- Perform exploratory data analysis (EDA) using visualization and SQL
- Perform interactive visual analytics using Folium and Plotly Dash
- Perform predictive analysis using classification models
- How to build, tune, evaluate classification models



Data Collection

- For job analysis there is the need of data and it can be collected by different methods. They are the following:
- **Company records**
- **Personal interview**
- **Observation method**
- **Diary or log of job incumbent**
- **Recording**

Data collection Spacex api



The github url:
https://github.com/sujithra1997/coursera-projects/blob/main/Applied%20data%20science%20capstone/week1/datacollection.ipynb

Data collection – Web scraping

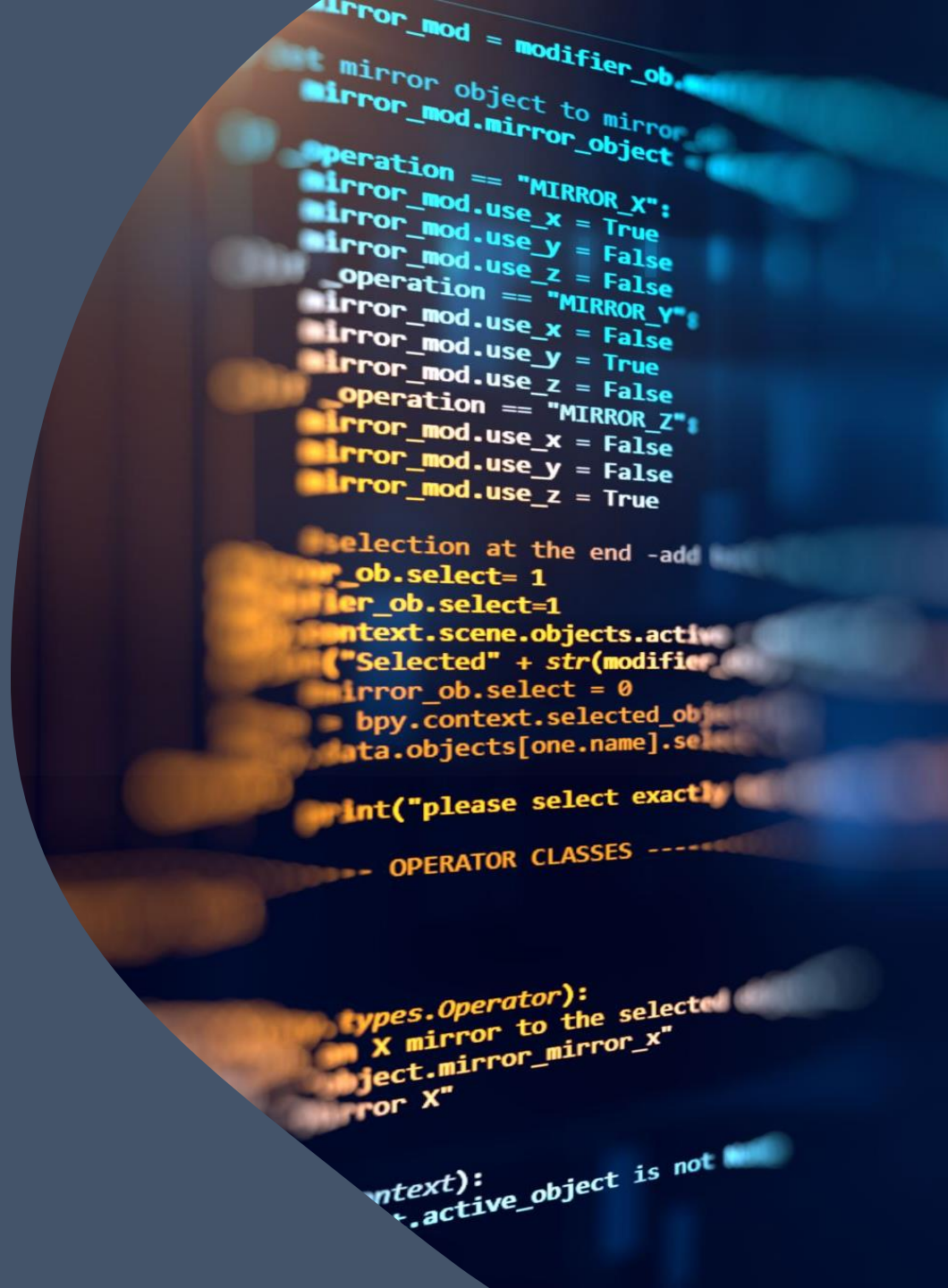
- The git url :
- https://github.com/sujithra1997/coursera-projects/blob/main/Applied%20data%20science%20capstone/week1/datawrangling.ipynb

EDA with data visualzation

- We can veiw the job vaccancy analysis using data visualization in real time process.
- https://github.com/sujithra1997/coursera-projects/blob/main/Applied%20data%20science%20capstone/week2/exploratory_analysis.ipynb

EDA with SQL

- We can use SQL querries to count the avalaible job vaccancy as well as max,min number of job vaccancy per day or year wise.
- https://github.com/sujithra1997/coursera-projects/blob/main/Applied%20data%20science%20capstone/week2/EDA-SQL.ipynb



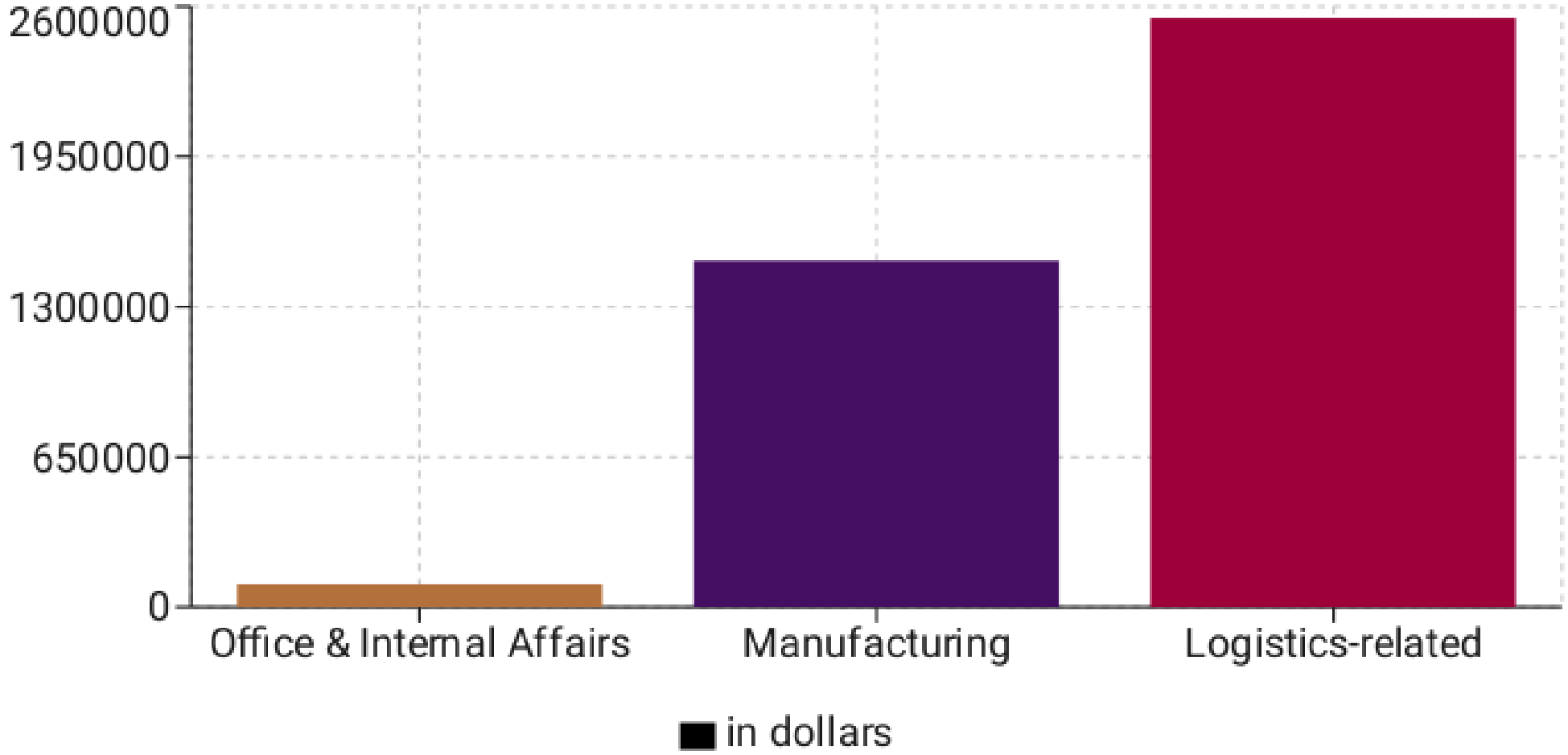
Predictive Analysis Classification

COSTS

COSTS	PREVIOUS COSTS	NEW COSTS
Office & Internal Affairs Tasks	$50,000.00	$100,000.00
Manufacturing Tasks	$1,000,000.00	$1,500,000.00

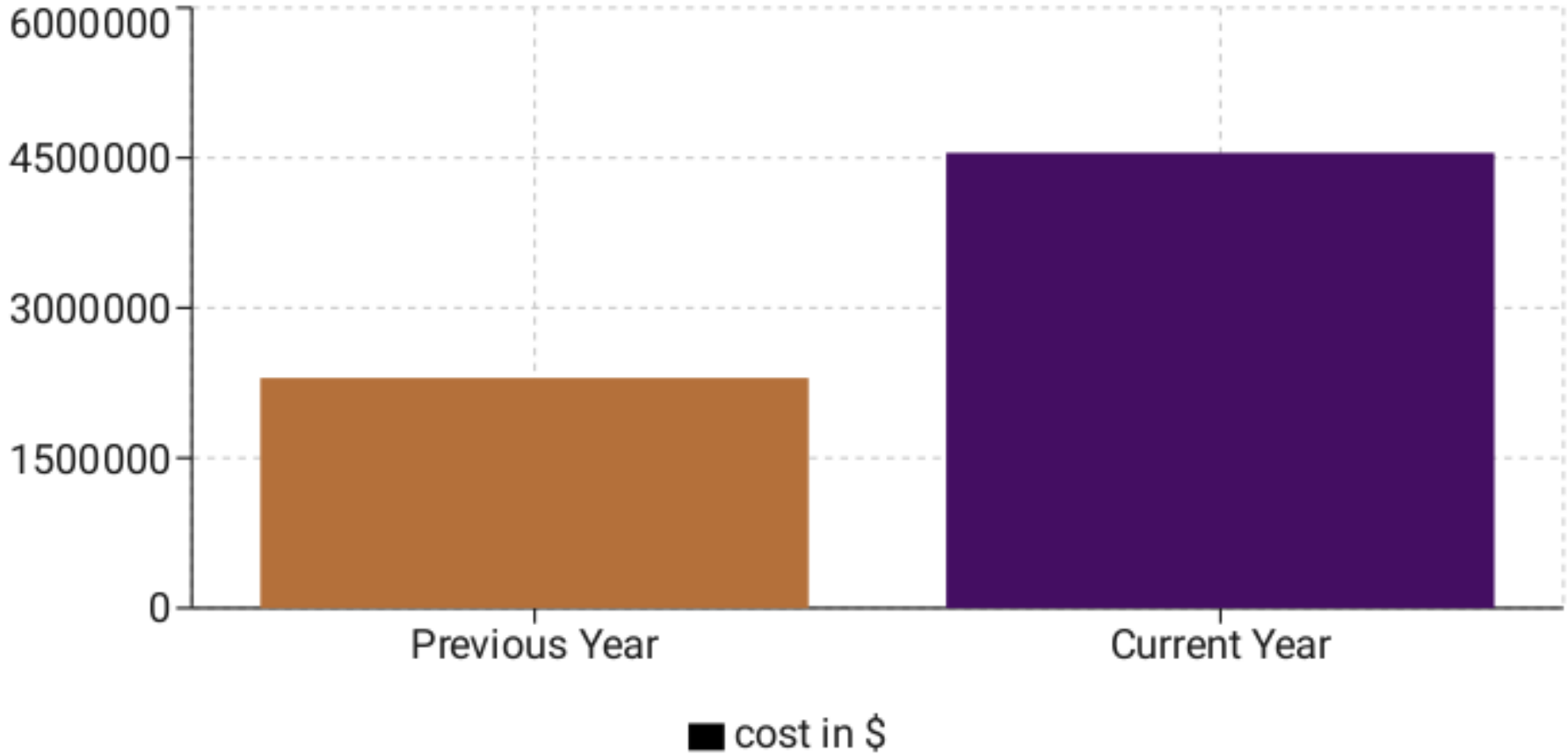
Finding 1

Based on the study and evaluation, logistics-related tasks consume more of the company's budget with $2,550,000.00 in total as compared to the office and internal affairs-task and manufacturing tasks.



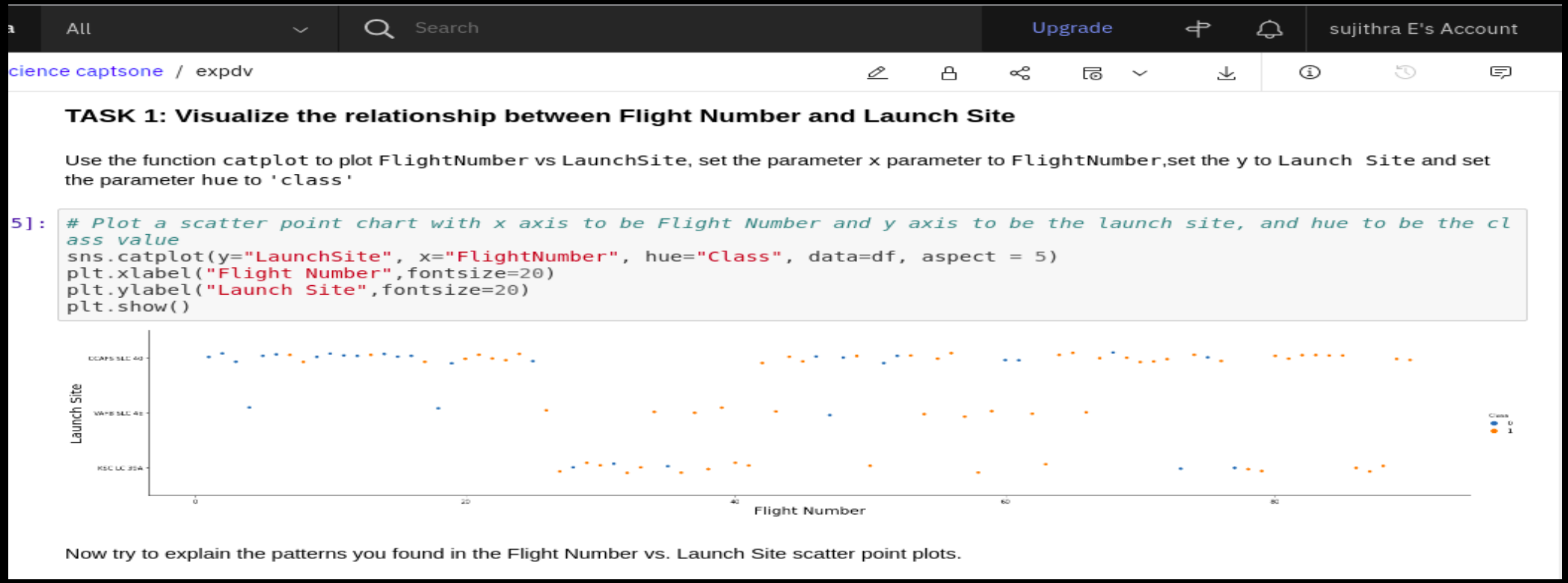
Finding 2

Based on the study and evaluation, the overall costs of the current year are higher than the previous year, amounting to $4,550,000.00 as opposed to last year's $2,300,000.00.

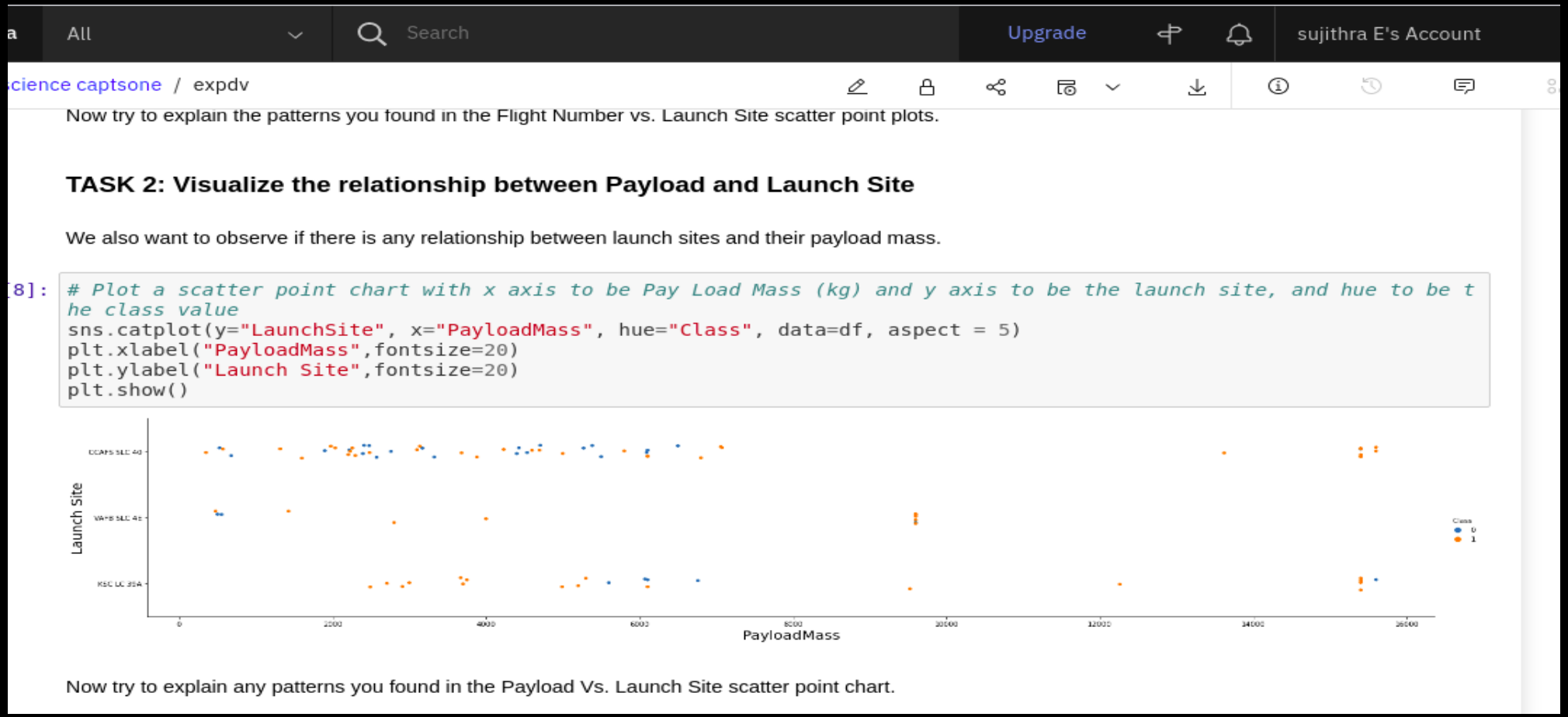



EDA with
Visualization

Flight Number vs Launch site



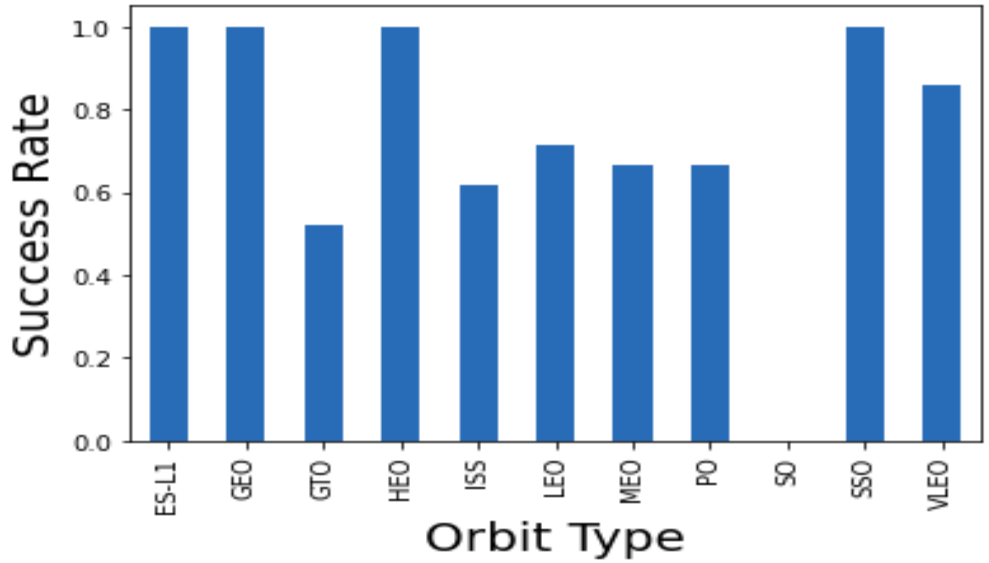
Payload mass vs launchsite



Success rate vs Orbit type

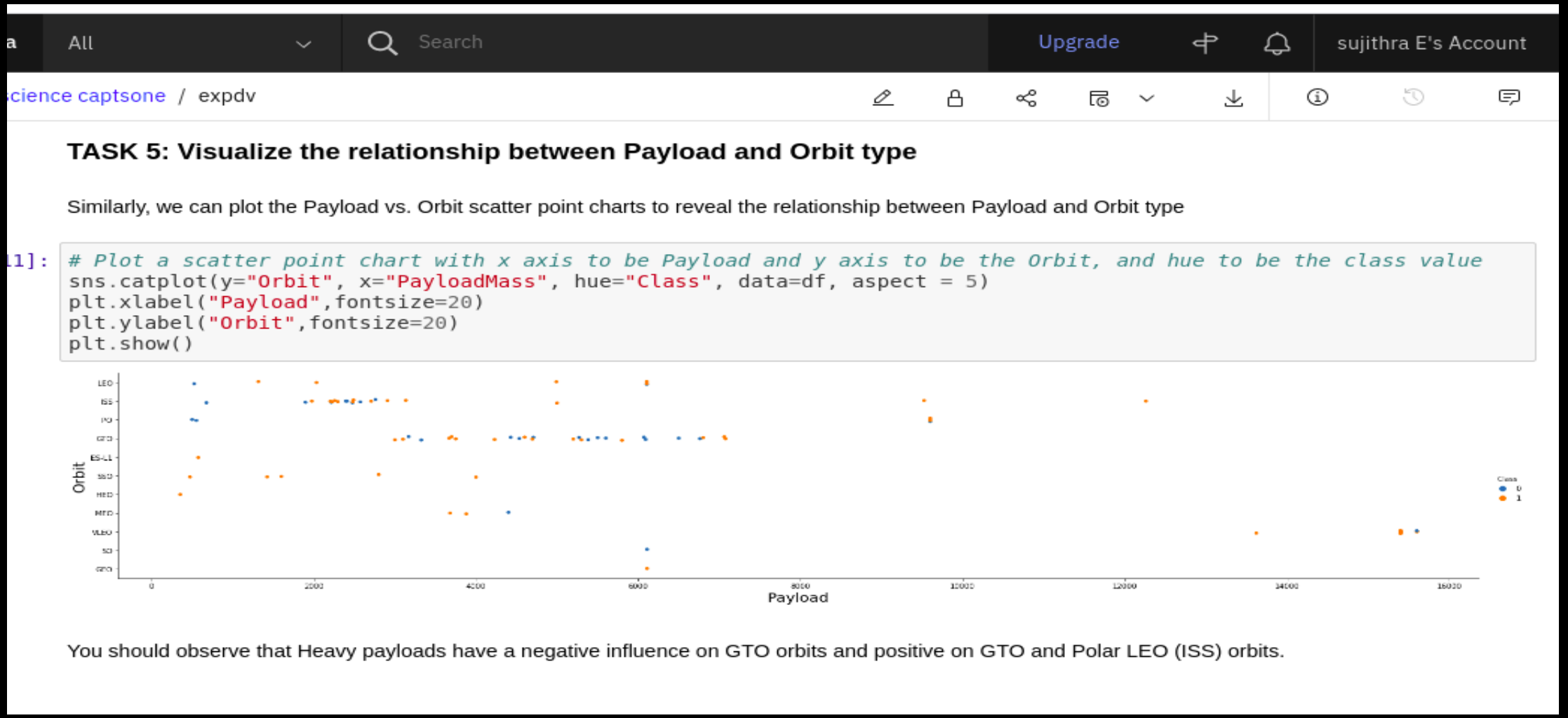
Let's create a bar chart for the sucess rate of each orbit

In [7]:
```
# HINT use groupby method on Orbit column and get the mean of Class column
df.groupby(['Orbit']).mean()['Class'].plot(kind='bar')
plt.xlabel("Orbit Type",fontsize=20)
plt.ylabel("Success Rate",fontsize=20)
plt.show()
```



Flight Number vs Orbit Type

Payload vs Orbit Type



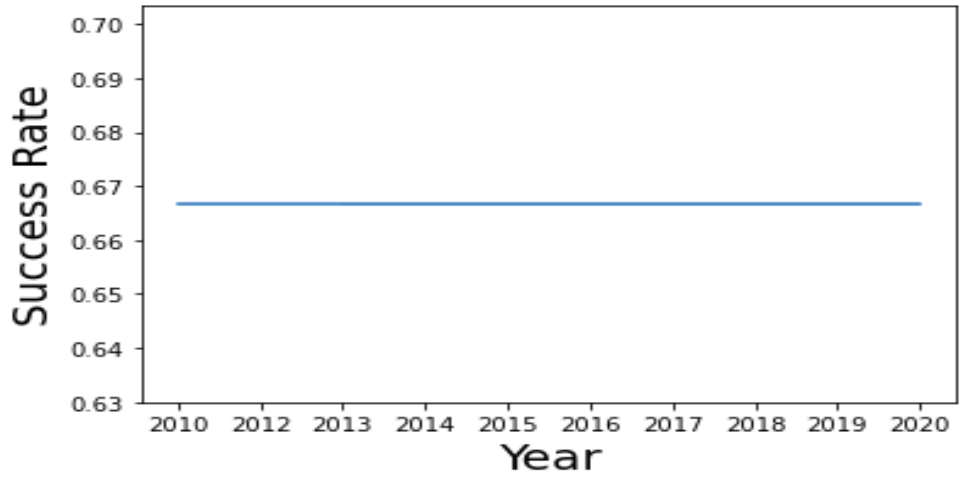
Launch Success yearly Trend

cience captsone / expdv

```
    return year
```

13]:

```
# Plot a line chart with x axis to be the extracted year and y axis to be the success rate
sns.lineplot(y=df['Class'].mean(), x=Extract_year(df))
plt.xlabel("Year",fontsize=20)
plt.ylabel("Success Rate",fontsize=20)
plt.show()
```



Conclusion

- Although the costs for the jobs or tasks increased in the current year, the budgets were necessary for the improvement of the company's services, both for the clients and internally.

Appendix

It is suggested that the company conduct a quarterly job analysis.

With the increased costs, the company should acquire more investors, at least 5, for the next year.