

Analytics for hospital health care data

ASSIGNMENT – 1

Dataset Link:

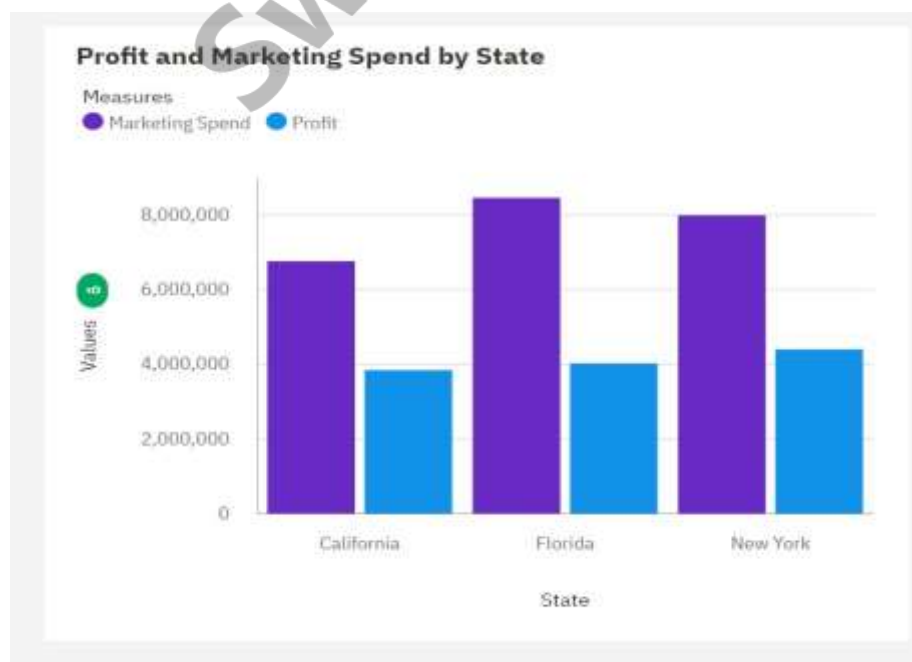
https://drive.google.com/file/d/100OUUpJFG8GOjhFztbfG5JP_jvzRgoihr/view

Challenge:

Upload the dataset to Cognos Analytics, explore and visualize the dataset.

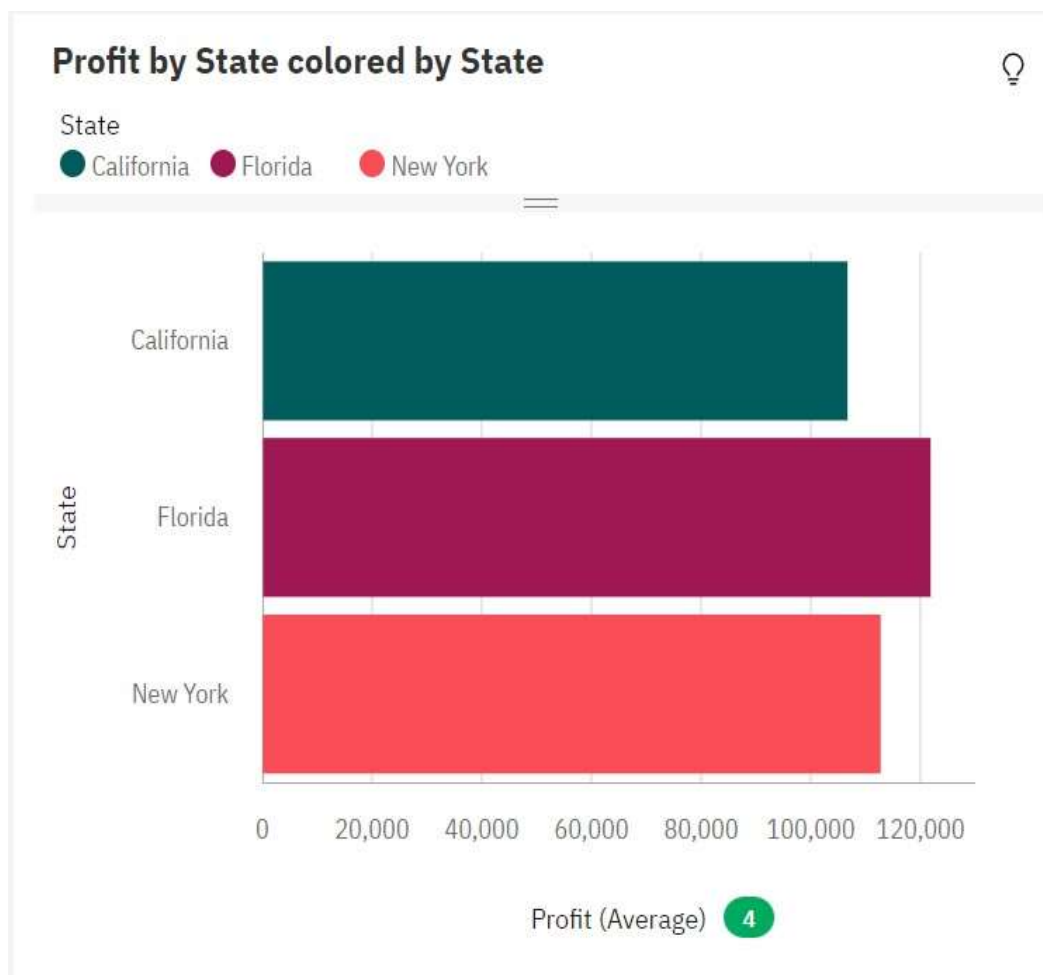
Exploration and Visualization of the Dataset:

1. Profit and Marketing spend by State:



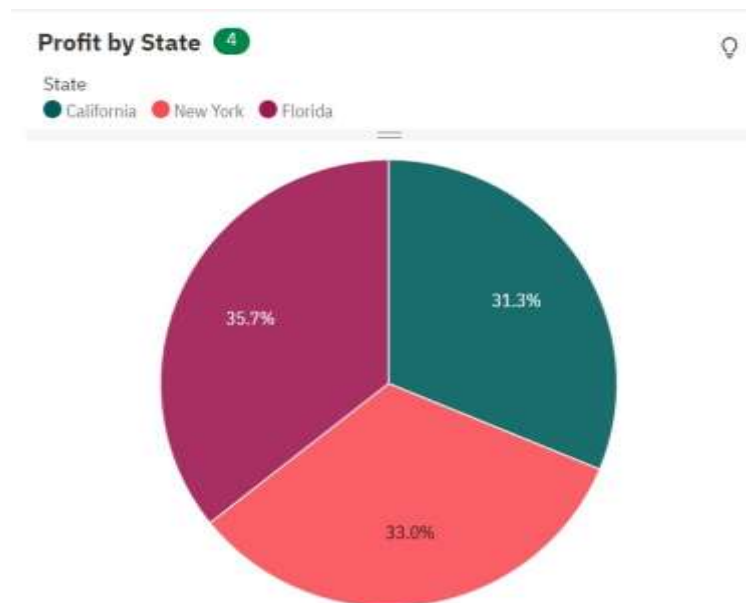
Inference:

- New York has lower marketing spend than Florida but they have a better profit. The profit difference between California and Florida are not that different.
- So, the marketing spend doesn't have a very high relationship with profit.

2. Profit and Marketing spend by State:**Inference:**

The average profit is high in Florida with more than 121,000 profit. Then followed by Florida and then by California.

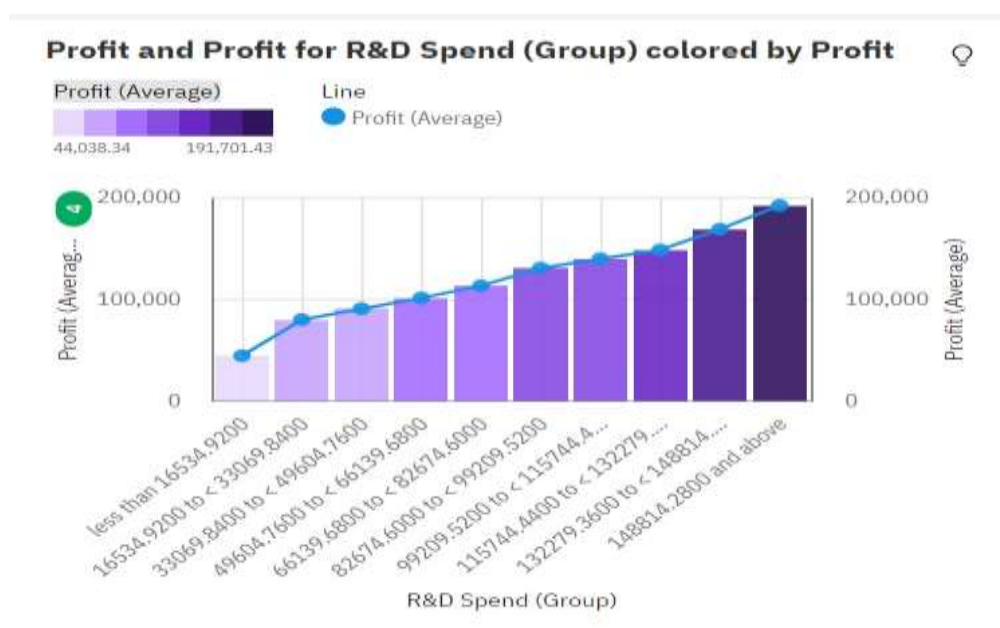
3. Profit and Marketing spend by State:



Inference:

The most common values of **State** are New York (36.1 %) and California (33.3 %), together occurring 75 times, which is 69.4 % of the total.

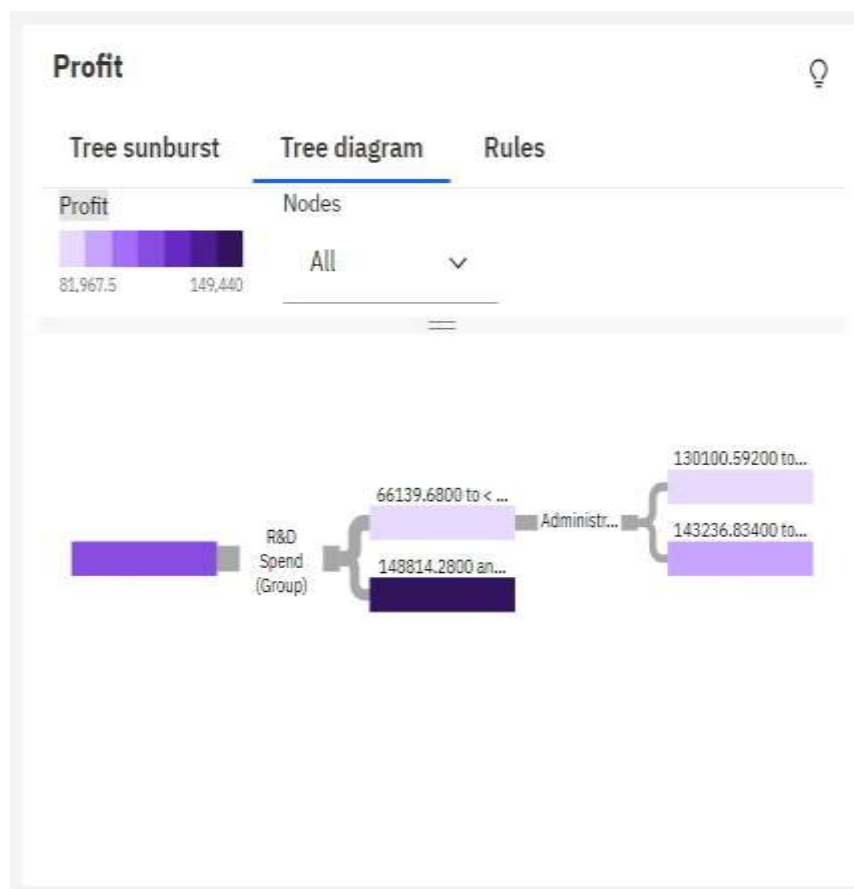
4. Profit and Profit by R&D Spend (Group):



Inference:

- R&D Spend (Group) strongly affects Profit (94%). So as the R&D Spend increases, the Profit increases.
- The average values of Profit range from over 44 thousand, occurring when R&D Spend (Group) is less than 16534.9200, to nearly 192 thousand, when R&D Spend (Group) is 148814.2800 and above.

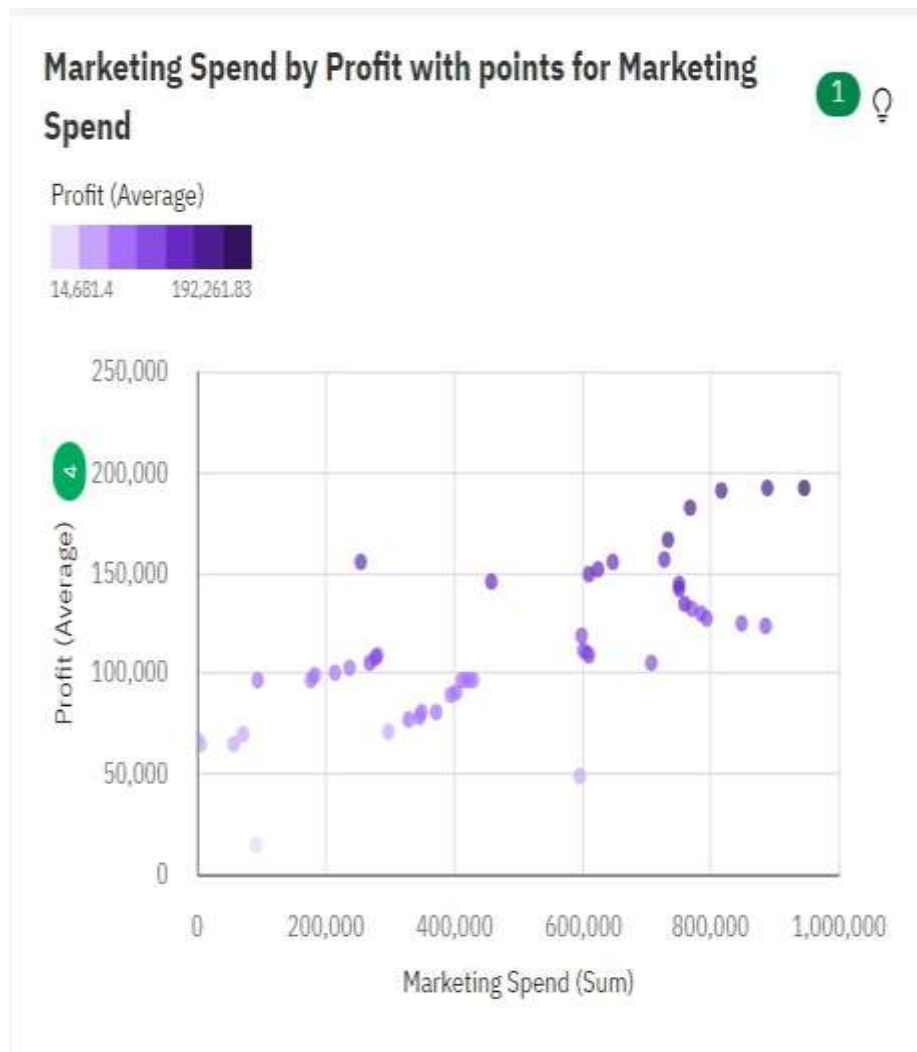
5. Decision Tree:



Inference:

- R&D Spend (Group) and Administration (Group) predict Profit with a strength of 62.7%.
- R&D Spend (Group) is the most significant predictor of Profit being ten times better than any other field.

6. Marketing Spend by Profit with points for Marketing Spend



Inference:

- The marketing spend and profit are related in a medium level.
- Profit and Marketing Spend have a medium positive linear association, being $\text{Profit} = 64558 + 0.1002 * \text{Marketing Spend}$.

7. Profit by Administration (Group)



Inference:

- Administration (Group) weakly affects Profit (11%).
- The average values of Profit range from nearly 63 thousand, occurring when Administration (Group) is less than 64419.38200, to over 134 thousand, when Administration (Group) is 90691.86600 to < 103828.10800.