Jay R Thomson Portfolio

My Story

Data analyst coming from a background in professional cycling, where I raced the biggest races around the world, including the Tour de France. I studied business and management at the University of Essex. Furthermore, I have gained experience as a customer service manager and marketing manager with a focus on PR and Athlete sponsorship.

Data has been part of my life as I analyzed my own training/race data to find patterns for finding better shape. Now I analyze customer support data to find deeper insights into customer behavior.

CareerFoundry has given me the tools to take this love for data to the next level.

My Skills

Technical Skills:

Excel

Python(Jupiter Notebooks)

SQL

Tableau

Google Analytics

Soft Skills:

Communication and Self-Motivation

– being alone 90% of the time, means communication and self-motivation were vitally important to my success.

Flexible and Responsibility

– race programs changed in an instant and I had to be flexible with these changes and responsible for my condition at every point.

Networking and Teamwork

- Being able to connect with sponsors and fans alike taught me networking is 99% of the Job but being a teammate on and off the bike was really the point that decided everything.

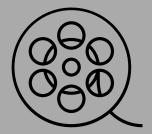
Featured Projects

1.
GameCO

Understanding the gaming market and how the company GameCO can make better decisions going forward as a company.

2.
Influenza

To help understand and supply hospitals in the USA with staff at critical times during the influenza season.



3.
Rockbuster

A movie rental company that is looking for insights on how to compete with new giants Netflix and Amazon Prime.

4.
Instacart

Understanding the Sales patterns of the successful online grocery store Instacart.

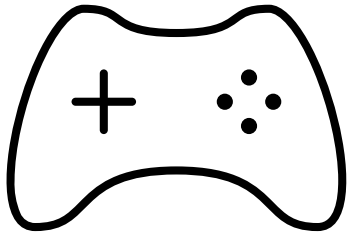
5.
Pig E. Bank

Big Data
Data Bias
Security & Privacy
Data Mining
Predictive Analysis
Time Series & Forecasting

6.
Cornell Car Rental

Using the data set from the start-up, Cornell car rental, to understand the renting habits across the USA in July 2020

GameCO



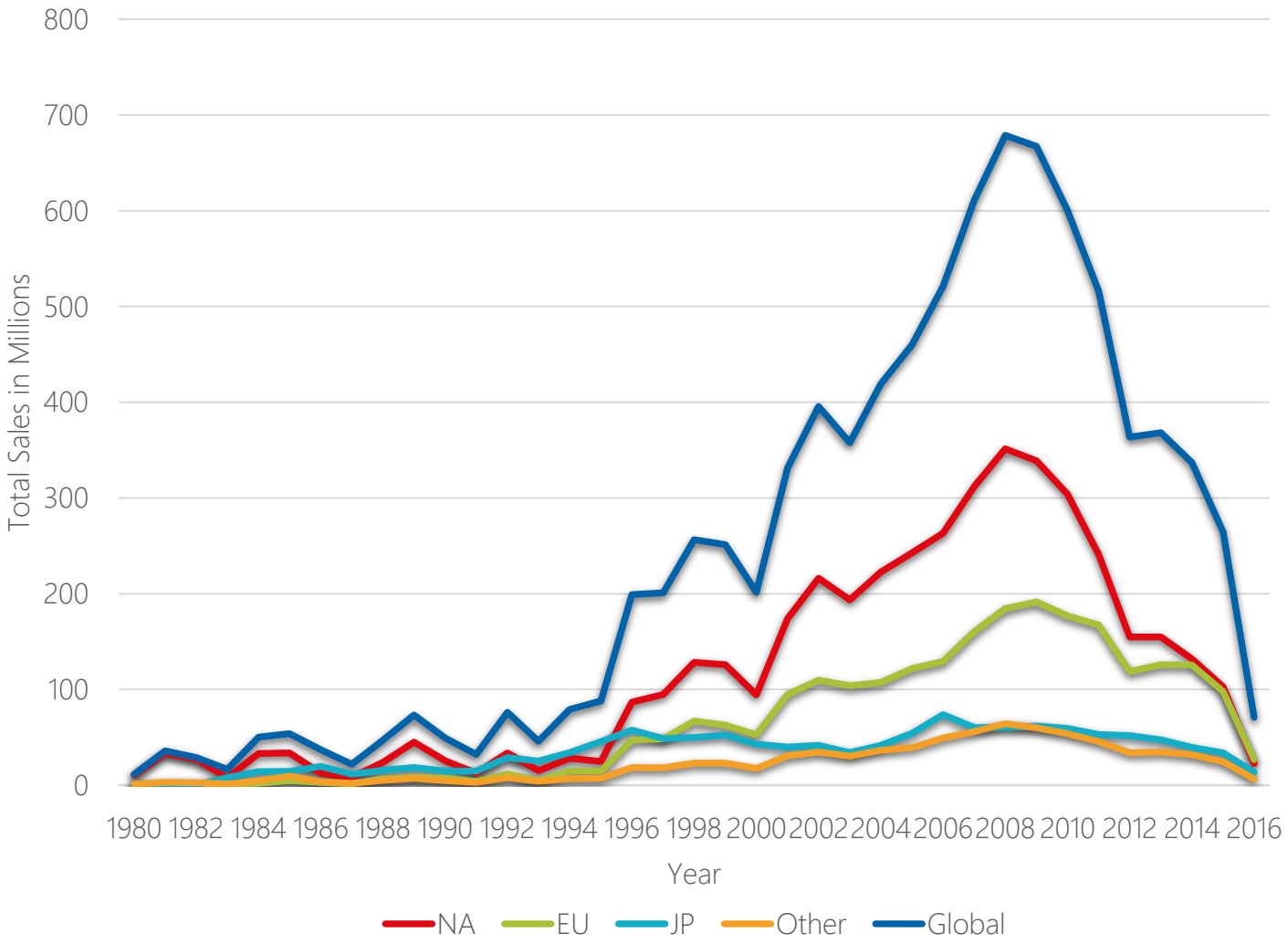
Objective

- Descriptive analysis making the use of excel in the video game data set to foster a better understanding of how GameCO's new games might fare in the market.

- Tools used
- Excel

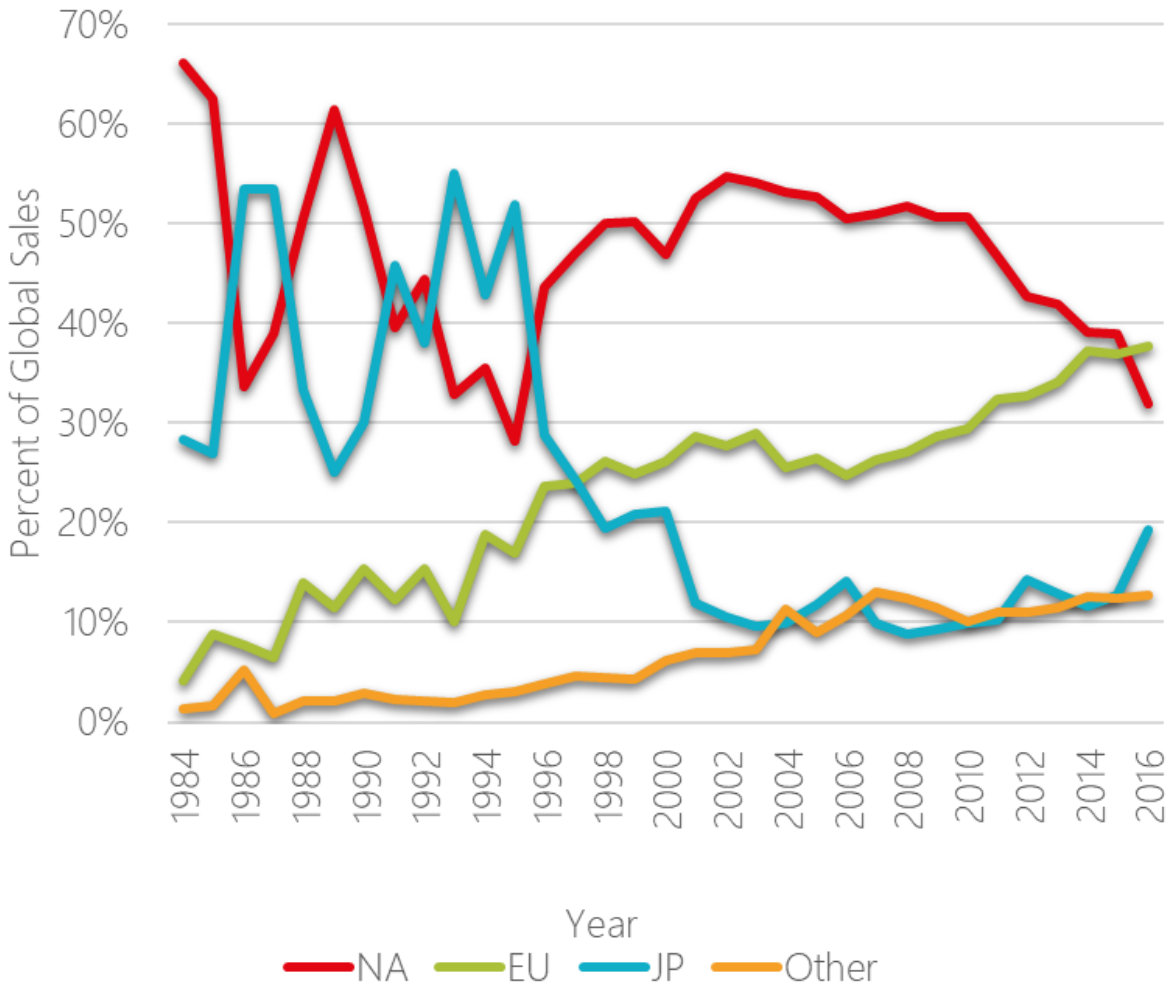
Key Questions

- Have other game types become more popular?
- Which game makers are becoming more popular?
- Which games have moved up or down in popularity?
- Has the sales figures changed over time with each region or geographical area?



GameCO

- Sales across all regions hit a peak in 2008, after the peak the decline was fast over the next 8 years with a short plateau in 2012.



GameCO

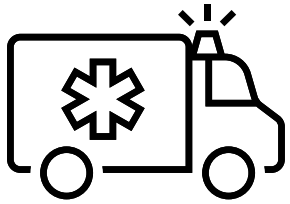
- Sales Percentages - North America lost the most, and the European market made a steady gain. Therefore, having the line share of sales.

GameCO

Recommendations

- Concentrate on the **Platforms** with the highest sales.
- Increase the marketing of the **Action Genre**.
- Target marketing on **Shooter and Sports** in the EU / NA / Other regions. Role-playing in the JP region.
- Look at leading game sales. **Concentrating on popular Publishers.** Put effort into marketing these products will help with Global sales.
- Adjust marketing **budget to 5%** of total revenue.

Influenza



Objective

- The analysis will help plan for the influenza season. The results will examine trends in influenza and how they can be used to proactively plan for staffing needs across the country.

Tools used

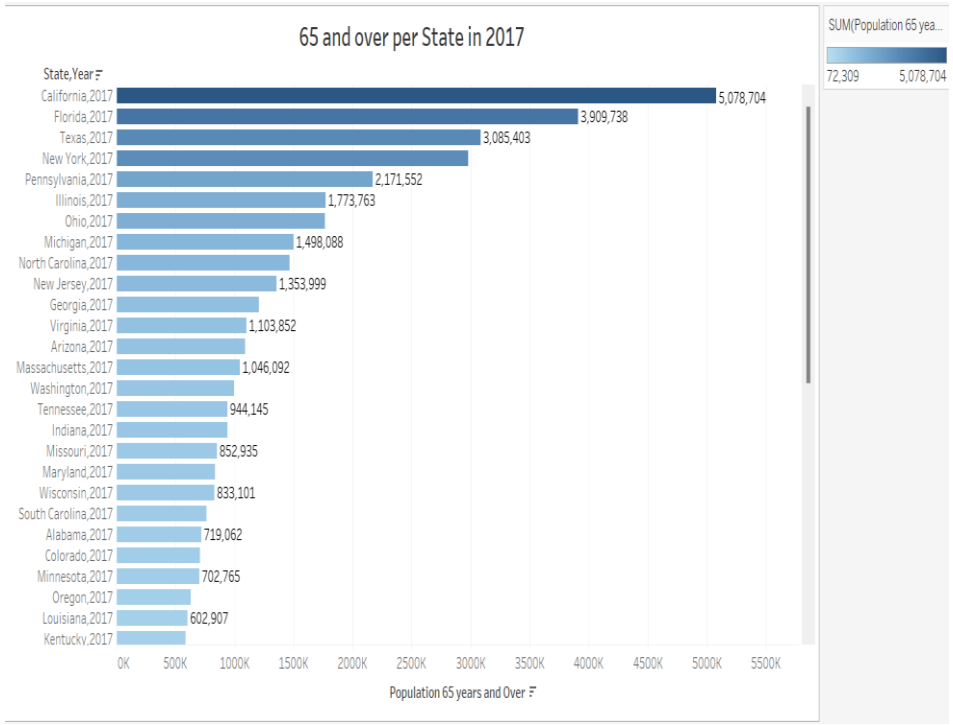
- Tableau
- Excel

Key Questions

- Provide information to support a staffing plan?
- Determine whether influenza occurs seasonally or throughout the entire year.
- Prioritize states with large vulnerable populations. Categorize each state as low-, medium-, or high-need.
- Assess data limitations.

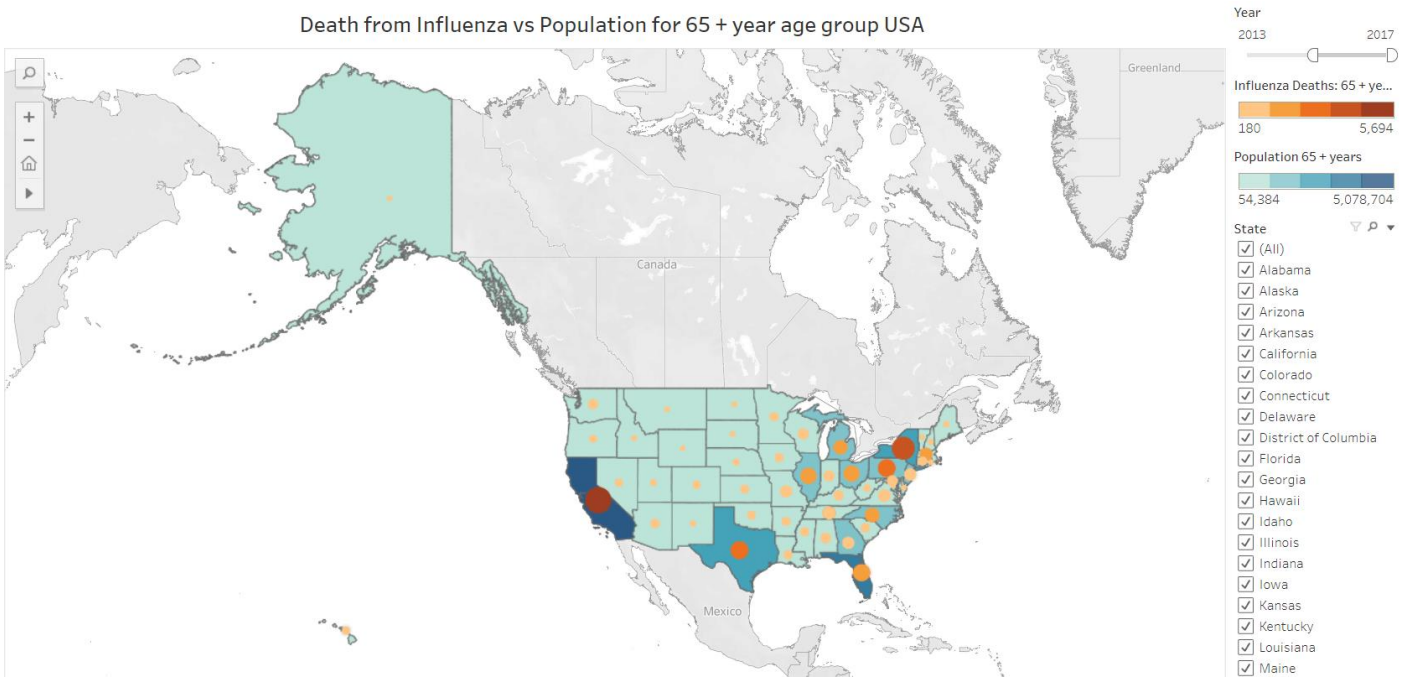
Influenza

- The population per state of over 65 or in this case the vulnerable group.



Influenza

- The deaths of the vulnerable group vs population. You can see the higher the population in a state the higher the death rate.



Influenza

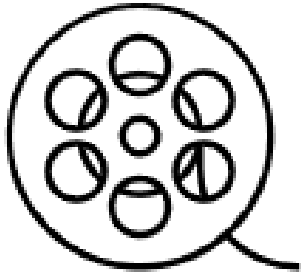
Recommendations

There are limitations to the data set. The recommendations would be to look towards the larger states where there is a higher vulnerable population. However, I have some open questions about this data set that would help me make a better recommendation.

- How many hospitals are there per state and how many hospital beds are available?
- How many hospital staff are there per state? and what is the recommended staff / patient ratio at full capacity?
- Having information on which age groups got the vaccination against influenza each year and what those numbers are per state.

- Tableau Storyboard – My story from the project on Tableau.
- Video presentation – A short video presentation on the findings.

Rockbuster



Objective

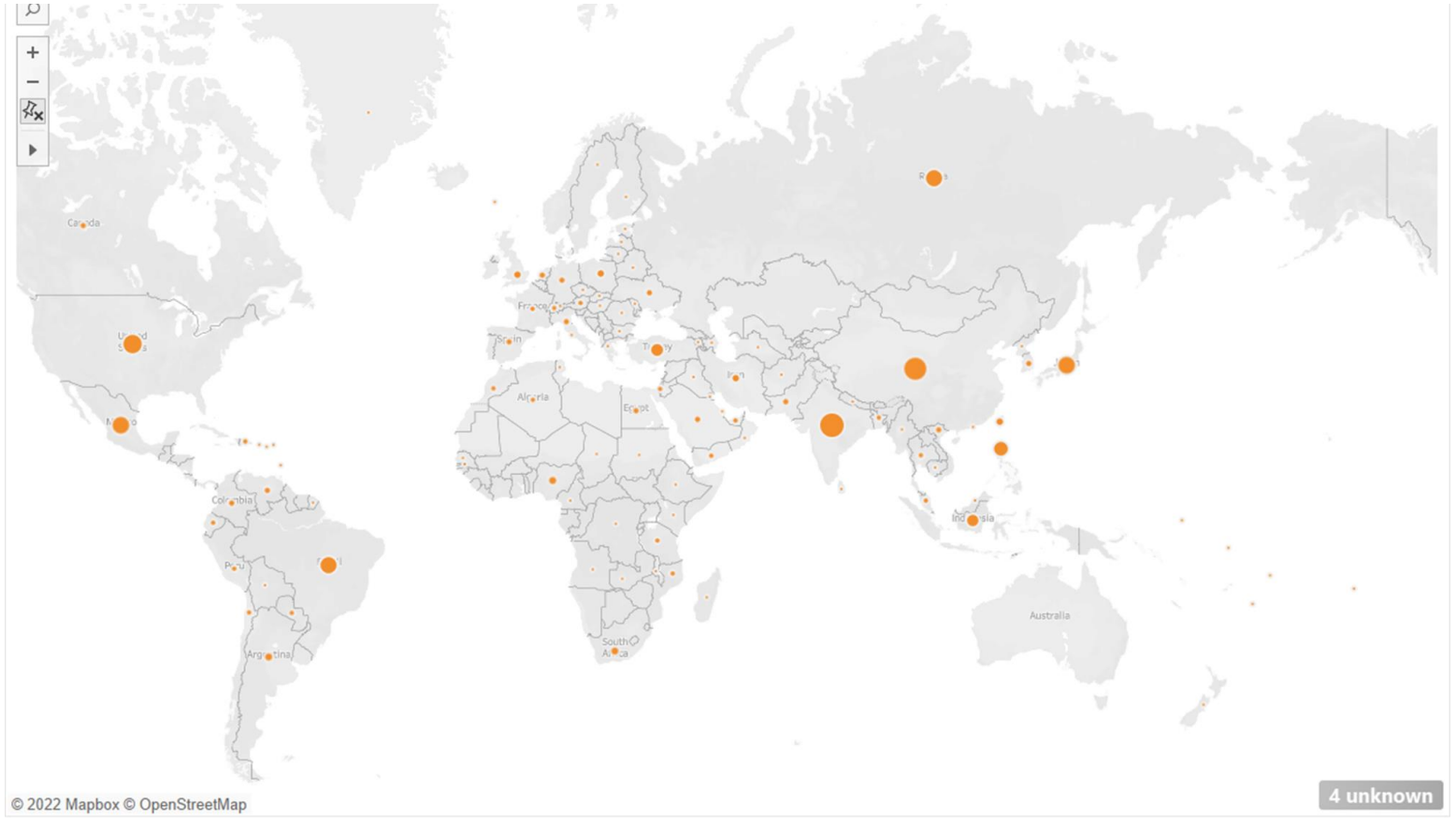
- Using SQL for analysis and graphics from Tableau of Rockbuster Stealth LLC - a movie rental company. With these insights, the management team is planning to use its existing movie licenses to launch an online video rental service.

Tools used

- PostgresSQL
- Excel

Key Questions

- Which movies contributed to the revenue?
- What was the average rental duration?
- Where are the customers based?
- Do sales figures vary between geographic regions?



Rockbuster

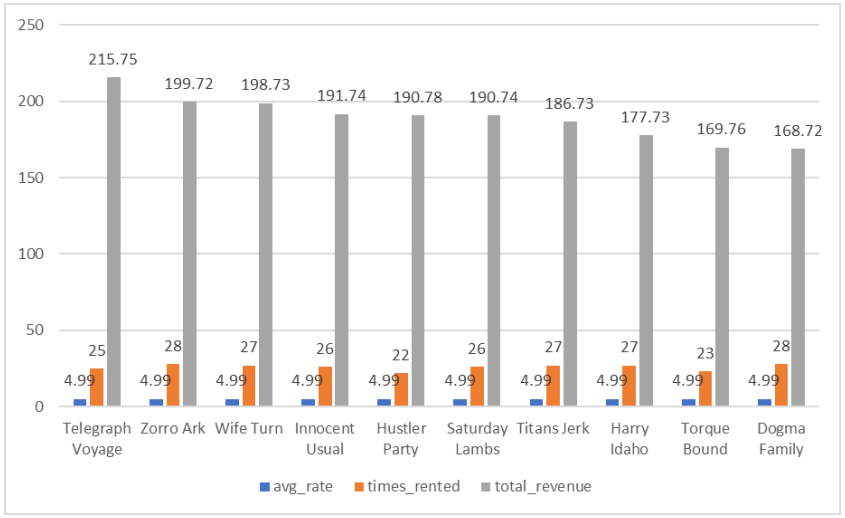
Country Customer Count

- India - 60
- China - 53
- USA- 36

The number of film rentals per country.

- India - 6035
- China - 5251
- USA - 3685

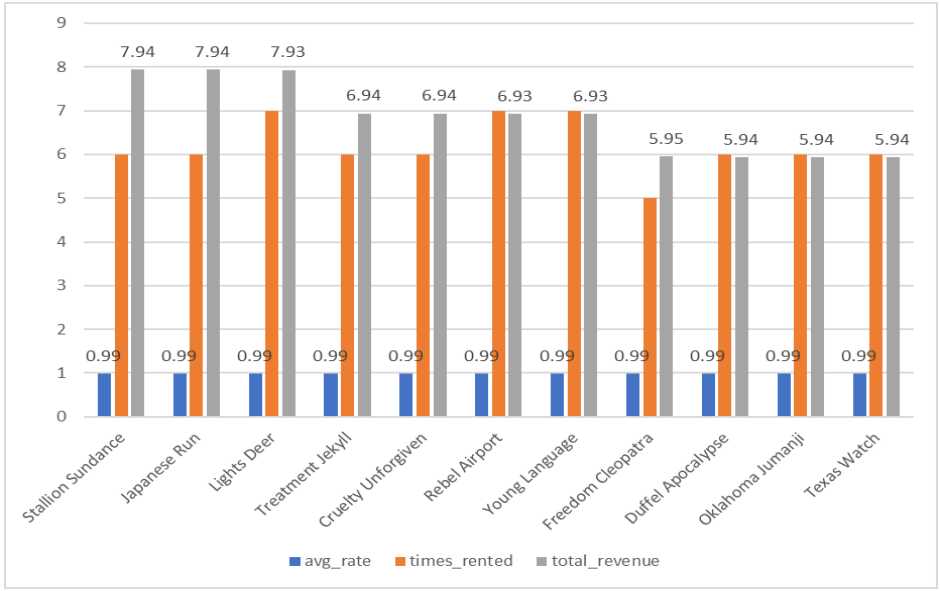
Rockbuster



Top 10 revenue
1. Telegraph Voyage
2. Zorro Ark
3. Wife Turn
4. Innocent Usual
5. Hustler Party
6. Saturday Lambs
7. Titans Jerk
8. Harry Idaho
9. Torque Bound
10. Dogma Family

Bottom 10 revenue

1. Texas Watch
2. Oklahoma Jumanji
3. Duffel Apocalypse
4. Freedom Cleopatra
5. Young Language
6. Rebel Airport
7. Cruelty Unforgiven
8. Treatment Jekyll
9. Lights Deer
10. Japanese Run / Stallion Sundance



Film inventory

In 2006 - 958 films were available for rent and 599 customers were registered.

The total film replacement cost of all films is $19 984

Rental Time:
Minimum duration: 3 days
Maximum duration: 7 days
Average duration: 4.9 days

Rental Income:
Minimum rental price: $0.99
Maximum rental price: $4.99
Total rental income: $61 312.04

Rockbuster

Recommendations

- Drop Thrillers from film inventory.
- Focus on the genres – Sports, Animation, and Action.
- Focus on the marketing strategy and on the genres rented in the middle group.
- Create a customer program that gives away bonuses for more rentals and consistent rentals.
- Optimize the upper price of the rental videos.

- GitHub – All essential data has been uploaded
- Tableau – Story was created and can be see through the link

Instacart

Objective

- Analysis using Python on Instacart - an online grocery store that operates through an app. They want to uncover information about their sales patterns and derive insights and suggest strategies for better segmentation

Tools used

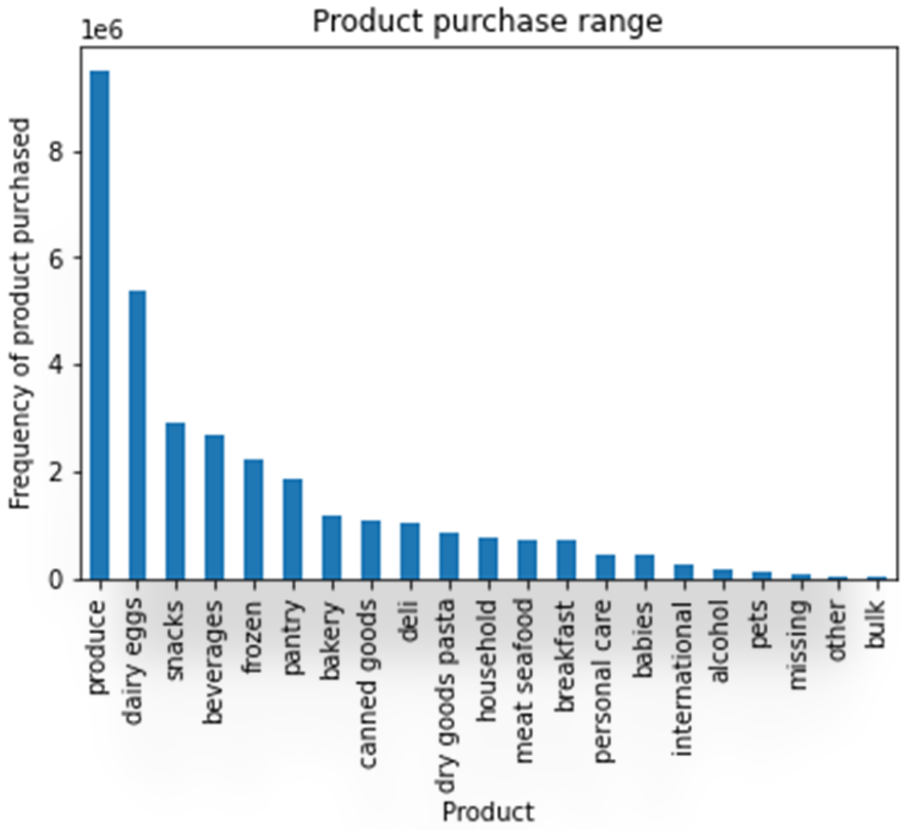
- Python - Jupiter Notebooks

Key Questions

- Busiest sales days and times?
- Which products are the most popular?
- What is the distribution among customers? Loyalty?
- What different classifications does the demographic information suggest?
- Is there a connection between age and family status?

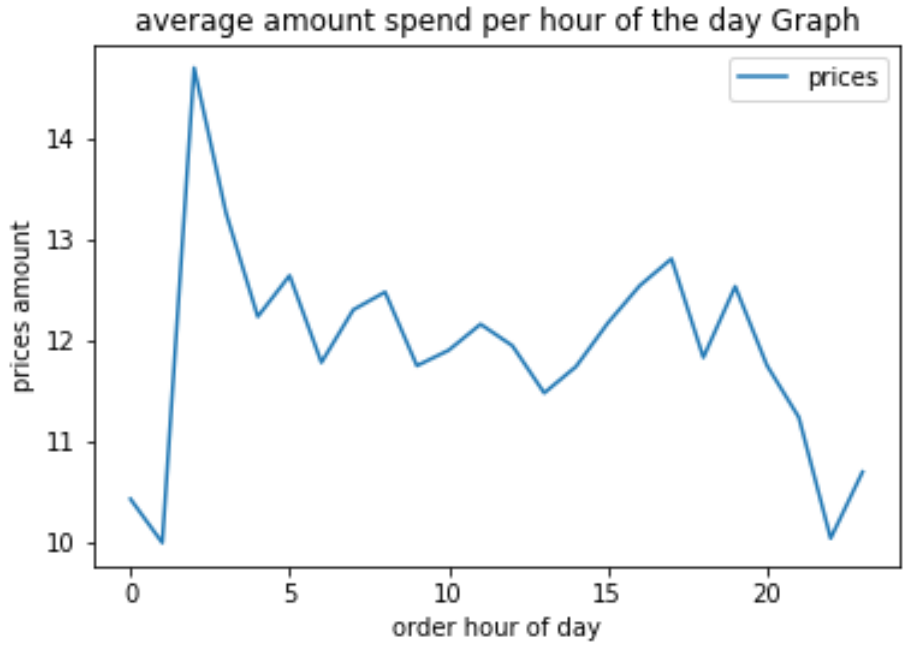
Instacart

Produce is the number one product sold by Instacart.



Instacart

The peak amount spent is between 2 and 3 am on Saturday and Sunday. However, the busiest hours of the day are between 10 am and 3 pm.



Instacart

Recommendation

- Focus on family-orientated marketing and sales programs. With a further focus on the range of products that are sold frequently. However, the main focus should be put on the group stated as "regular customers". Offering a better loyalty program or more advantages to being loyal.

- GitHub – All essential Jupiter books were uploaded

Pig E. Bank

Objective

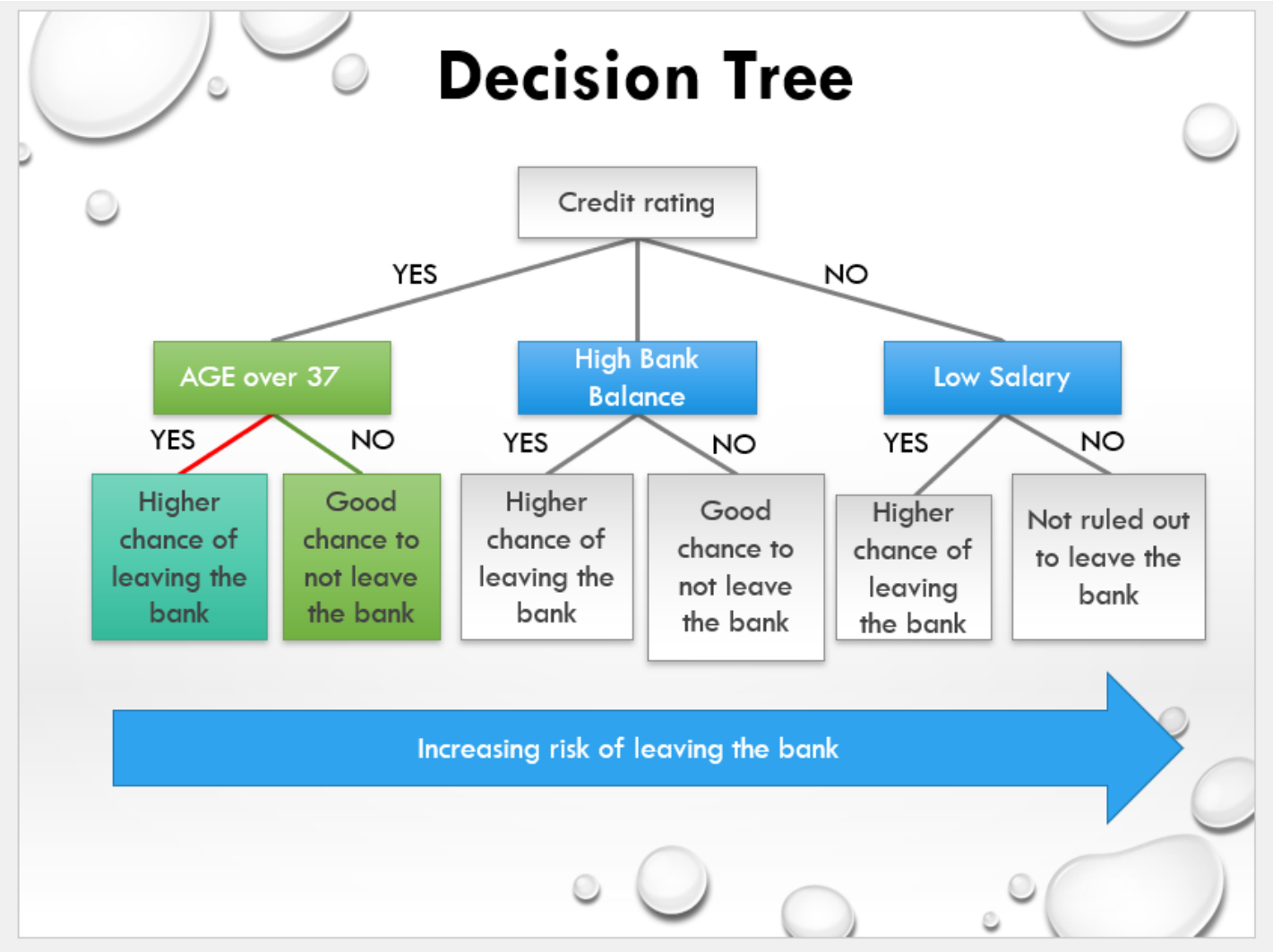
- Using a variety of technologies on the data from Pig E. Bank.

Tools used

- Big Data
- Data Bias
- Security & Privacy
- Data Mining
- Predictive Analysis
- Time Series & Forecasting

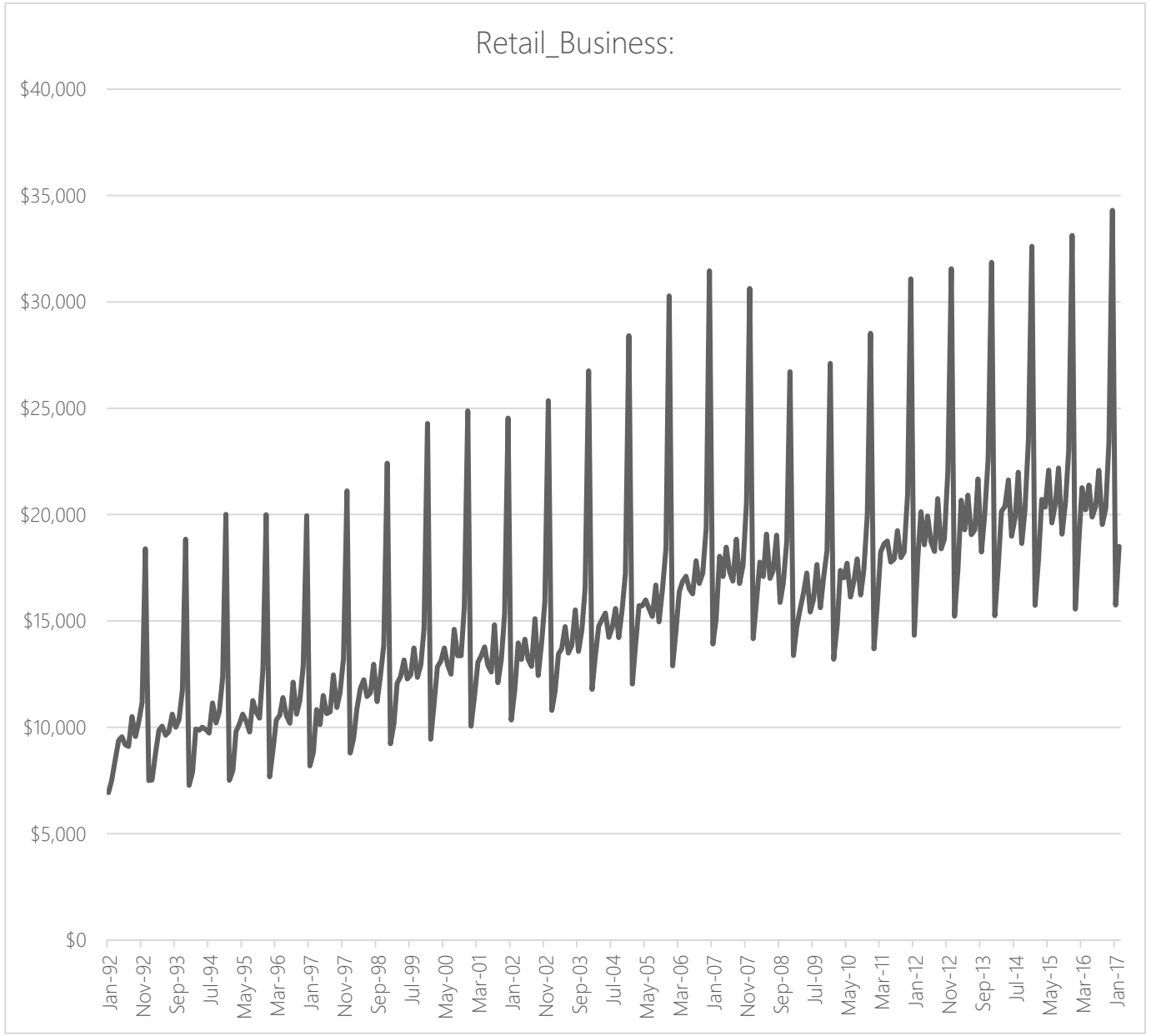
Key Questions

- The characteristics of big data, how data analysts use big data, and the challenges of extracting knowledge from big data
- The impact of data bias and ethics on how data is used, shared, collected, and protected
- The fundamentals of data mining, including techniques for data mining and how it drives decision-making
- Predictive analysis and models such as linear regression
- Time-series analysis and time-series forecasting



Pig E. Bank

- Decision tree on finding the reasons why customers are leaving Pig E. Bank. My insights saw credit rating is a big push for customers to leave. However, this is with customers over the age of 37, with high bank balances, and low salaries.



Pig E. Bank

- Time series graph depicting the peaks of a retail business around the Christmas period spanning over 25 years.

Pig E. Bank

Conclusion:

- Analyzing data is not just about making calculations to get insights into the data set but more to take every point of a data set and find the pattern. With a pattern, we can make calculated recommendations about where the company needs to head.

Cornell Car Rental

Objective:

- Using the data set from the start-up, Cornell car rental, to understand the renting habits across the USA in July 2020

Tools used:

- Tableau
- Python
- Excel

Key Questions:

1. Which car type is higher in demand than others?

2. Which is the most rented fuel type of car?

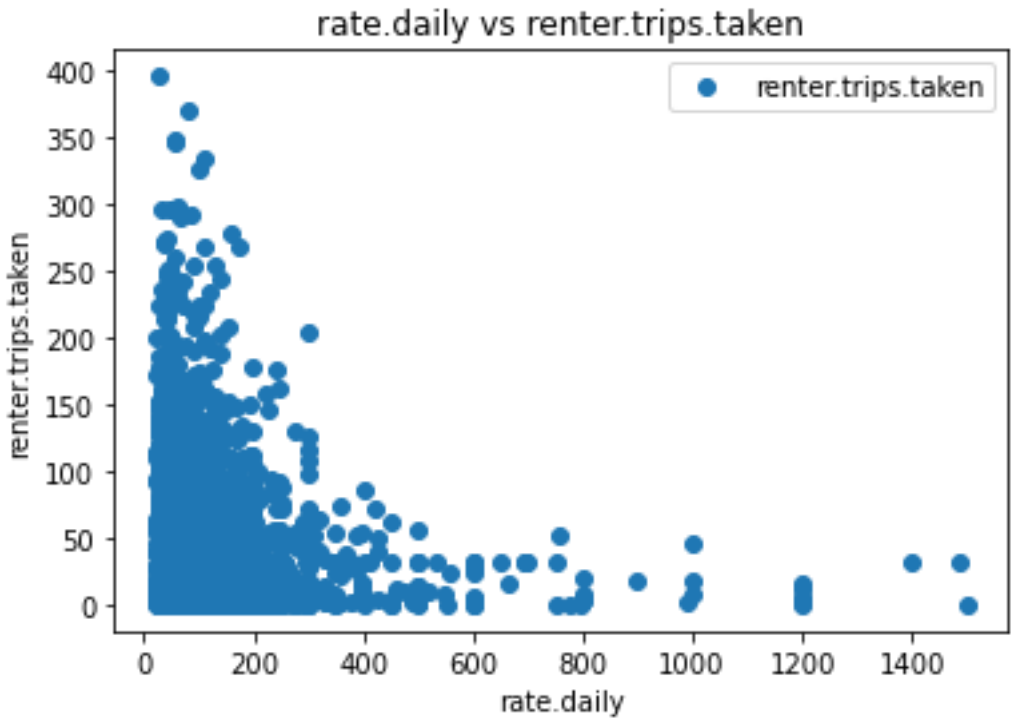
3. Which cities are “Green”, more into e-cars/hybrids rentals?

4. Does fuel type influence rental price and in which way.?

5. Which are the top 5 cities that have the most rentals and rental income.? Is there a reason for this.?

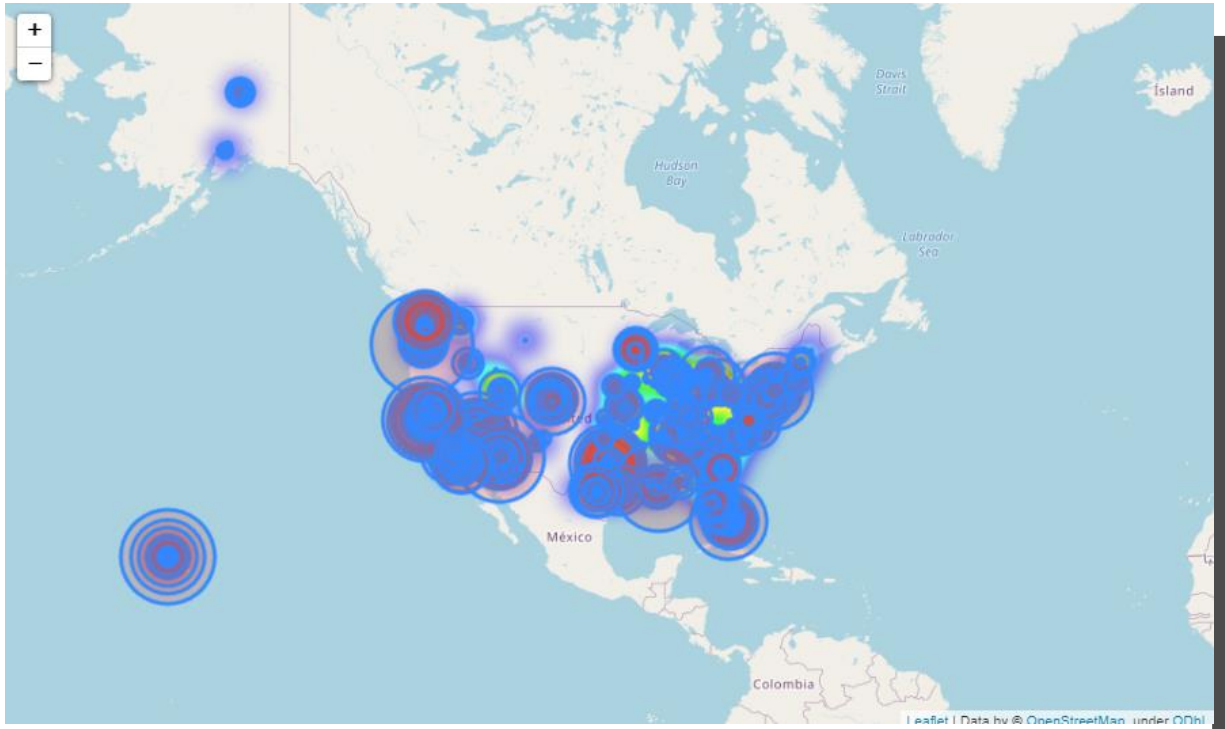
Cornell Car Rental

A regression analysis graph of the relationship between the number of car rentals done by a customer compared to the price they have paid. As you see lower rent rates have higher rental numbers.



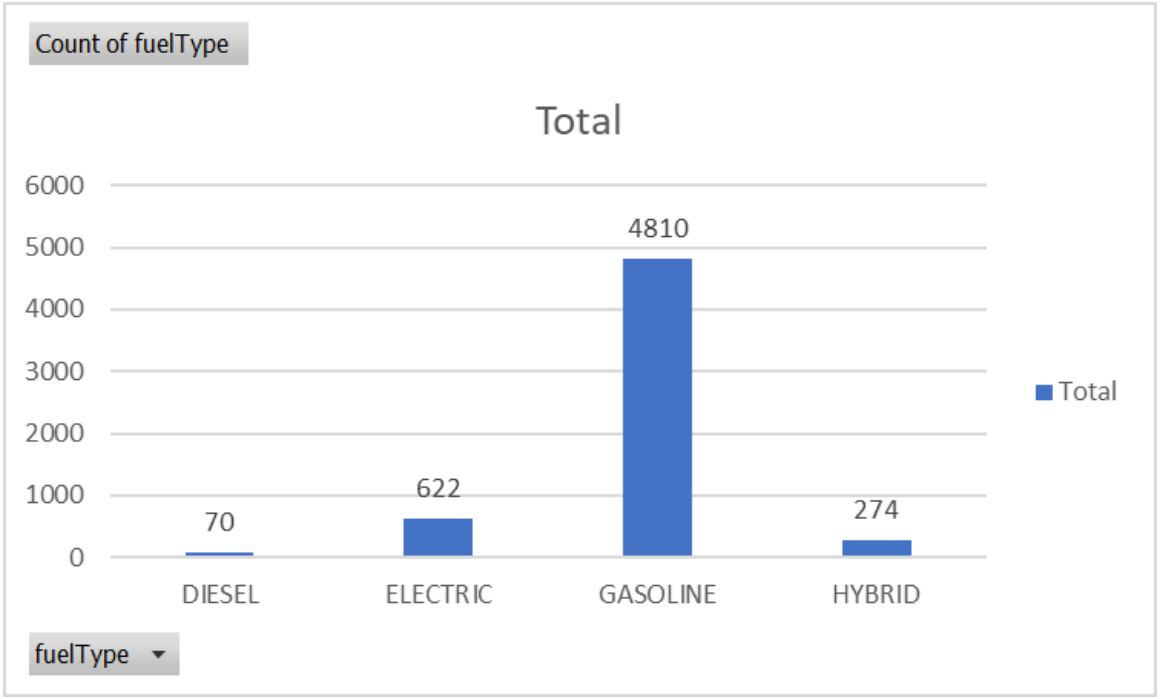
Cornell Car Rental

- Using a heatmap to show the number of rental cars taken across the USA.



Cornell Car Rental

- A simple count of car rentals per fuel type. Of the 5800 plus rentals, a staggering 4810 were of the fuel type Gasoline.



Cornell Car Rental

Conclusion:

- Looking at the results that we have taken from the analysis of the data from Cornell car rental across the USA we can see that more car rentals have been taken at lower rates than any other rate. Gasoline is the highest rented car in the month, this is mainly because the prices are generally lower for gasoline-fueled vehicles than the other fuel types, however, it is not the lowest with Hybrid average rental cost being $84 and Gasoline $87, however, Electric cars have almost double those prices at $145 on average per day of rental. Las Vegas and San Diego are the two cities with the highest demands for electric cars. With Austin being the highest in demand for Hybrid cars.

This can then ask the question:

- How do we become better at green energy and how can we bring the rental rates of electric cars down from 145$ to a more competitive price for gasoline cars? Or how can we get more hybrid rentals?

- GitHub – All Jupiter notebooks were uploaded

Thank you

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GitHub

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Tableau