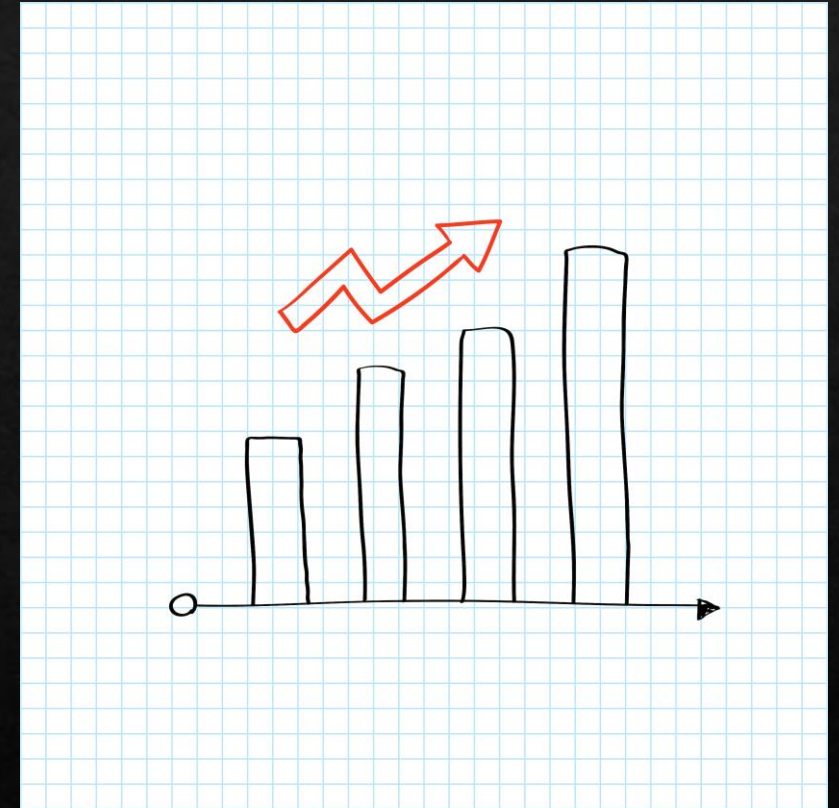
The background of the image is a dense field of 3D-rendered numbers in various shades of blue and white. The numbers are scattered across the frame, creating a sense of depth and data. A dark blue rectangular box is overlaid on the right side of the image, containing the text.

Thea Layton

Data Analyst

Content

- ◇ About Me
 - ◇ Introduction
 - ◇ Values
 - ◇ Areas of expertise
 - ◇ Skillsets – tech stack & analytical snapshot
- ◇ Projects:
 - ◇ Preparing for the Flu Season
 - ◇ Medical Staffing Recommendation
 - ◇ Rockbuster Stealth
 - ◇ Business Analysis for Change Management
 - ◇ Instacart
 - ◇ Grocery Basket Analysis
 - ◇ Maternal Pressures and A Mother's Education
 - ◇ Exploratory Analysis for Mothers
 - ◇ GameCo
 - ◇ Insights to Maximize Marketing



About Me



As a former educator, coach and elected VP and Treasurer, data has always stood out to me as a way to drive performance, steer decision-making, and aid in strategic planning. With a passion for mathematics and recognizing the abundance of data in today's world, I decided to navigate to an applied field to help businesses and stakeholders uncover the stories and insights untold by their raw data. As a seasoned professional with 8+ years of experience, I thrive in collaborative and solution-oriented environments working to deliver meaningful visualizations and comprehensive reports aimed at achieving the company's mission and goals.

I am eager to help companies with their data-rich journeys.

Values



Integrity

- ◇ Being trustworthy, responsibility and having high personal standards are key factors of integrity that I strive for every day.

Growth

- ◇ Without growth, we become stagnant. Continually improving and learning is the key to success.

Community

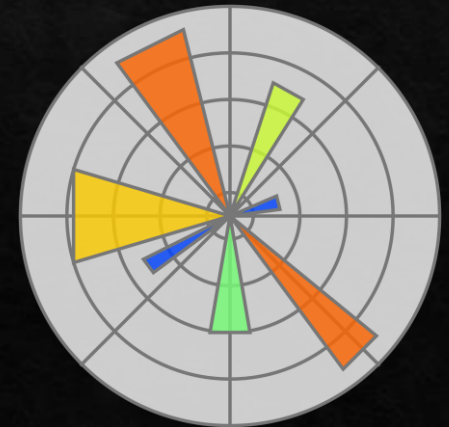
- ◇ Collaboration, meaningful connections, positive relations are what drive me in and out of the work force.

Areas of Expertise

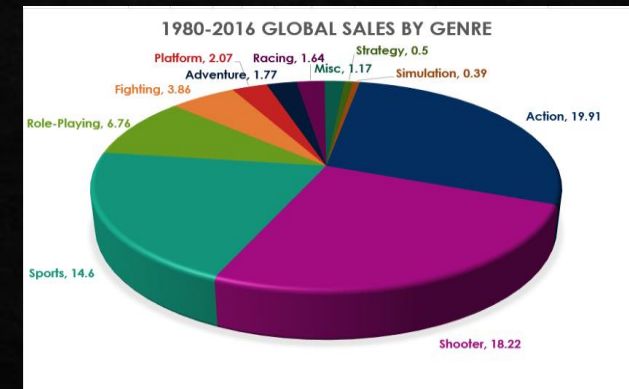
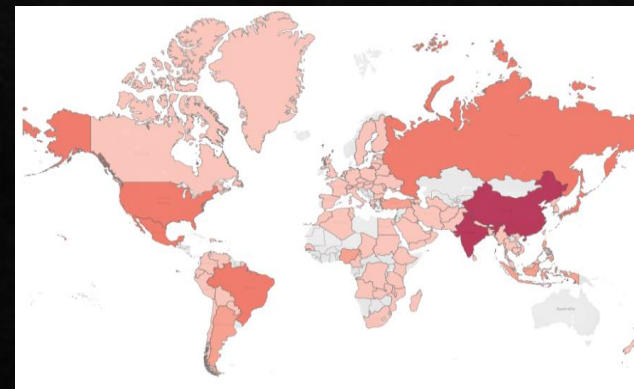
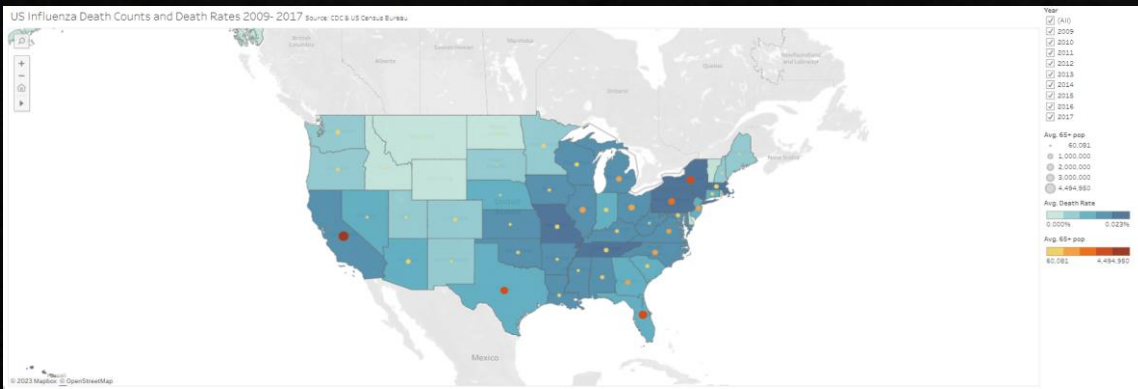
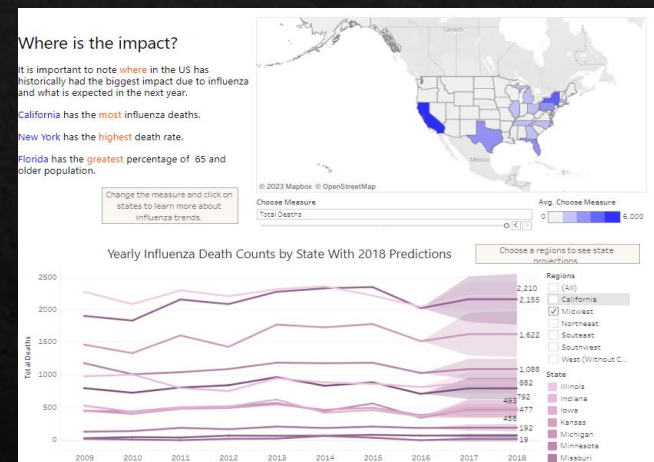
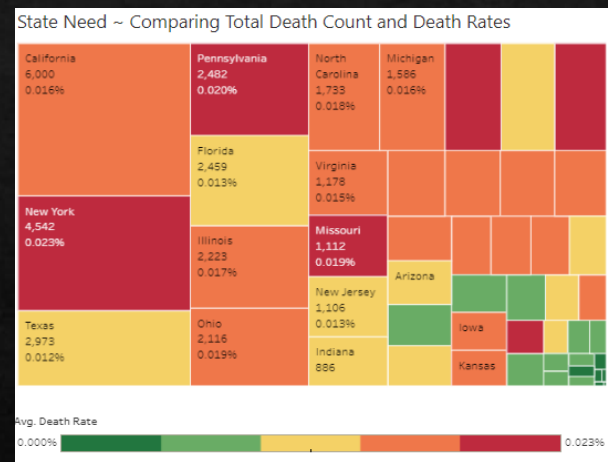
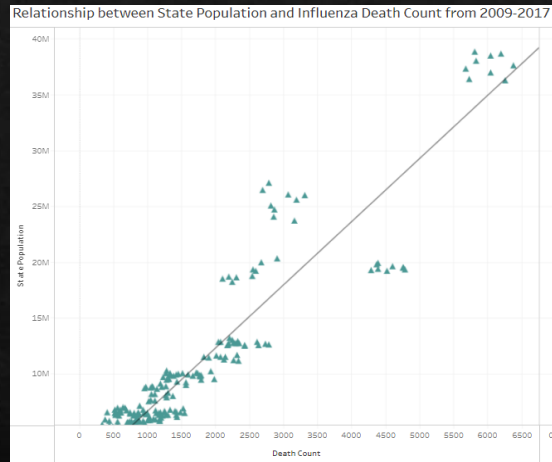
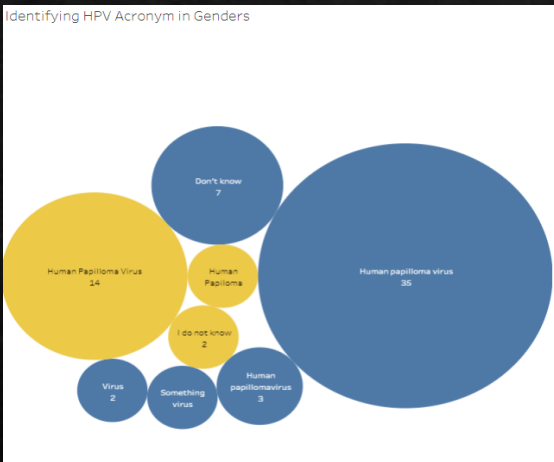
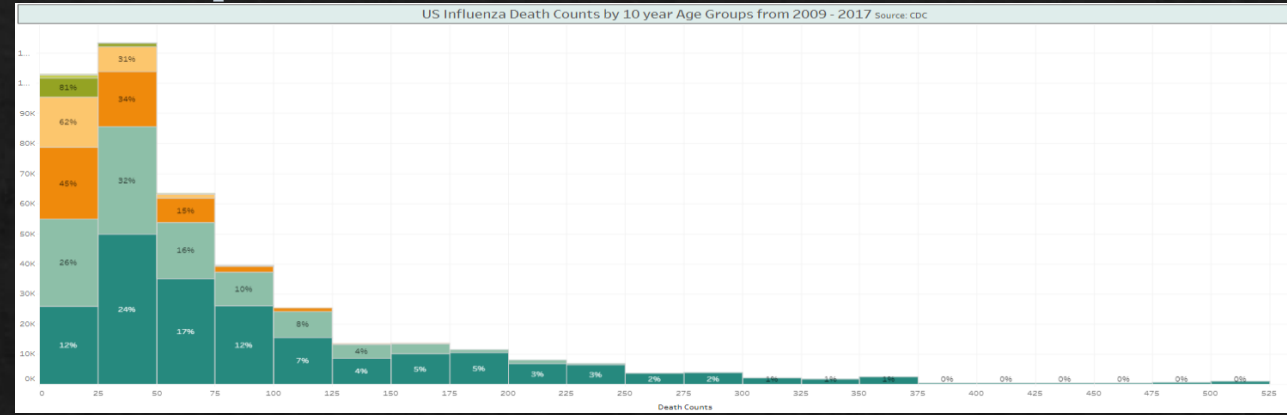
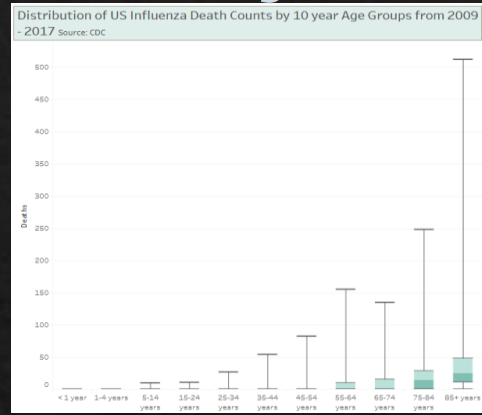
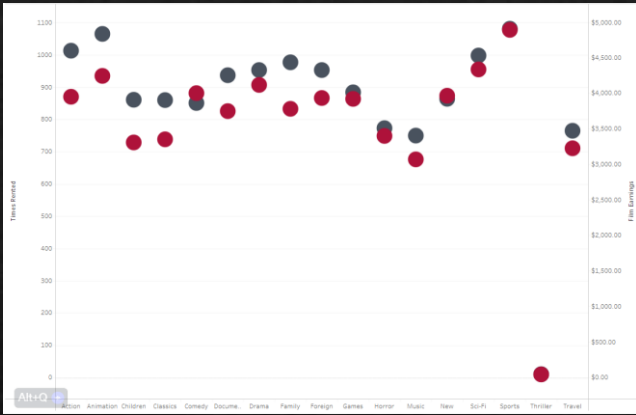
Area	Expertise
Data Analytics	Experience with data cleaning and wrangling, exploratory data analysis, statistics, geospatial, time series with forecasting and predictive models, big data and machine learning.
Education	Curriculum and instructional design aimed to increase individual mastery of content, assessing qualitative and quantitative data to determine informational understanding, professional collaboration for state and course alignment, differentiating teaching pedagogies to meet individual needs.
Leadership	Strategic planning, collaborating with stakeholders, conflict resolution, compliance monitoring, solving personnel issues, upholding equitable practices, providing appropriate documentation, managing yearly budget, and hiring personnel.
Coach/Mentor	Communicating effectively toward underlying goals, providing constructive feedback, giving comprehensive support to increase preparedness.
Business Development & Marketing	Working as a freelancer with small start up. Creating digital content and website to maximize revenue and find target audiences. Additionally, oversee inventory, finances, accounts, marketing and copy for new market-disrupting product in the pet industry.



Tech Stack



Analytics Snapshot





Influenza Season

Medical Staffing Recommendation

Project Overview



Objective

A medical staffing agency provides temporary workers to clinics and hospitals as needed during flu seasons.

Goal: Deliver insights that help plan for the upcoming flu season on when and where to send additional staff.



Key Questions

Determine when to send staff, and how many, to each state.

Identify vulnerable populations who are most affected by the flu season.

Data

Influenza deaths by geography, time, age, and gender

Source: [CDC](#), Download [Data Set](#)

Population data by geography

Source: US Census Bureau, Download [Data Set](#)

Skills



Translating Business

Requirements

Data cleaning

Data integration

Data transformation

Statistical Hypothesis Testing

Visual analysis

Forecasting

Storytelling in Tableau

Analysis

Assessing state need for medical staffing based on historical data

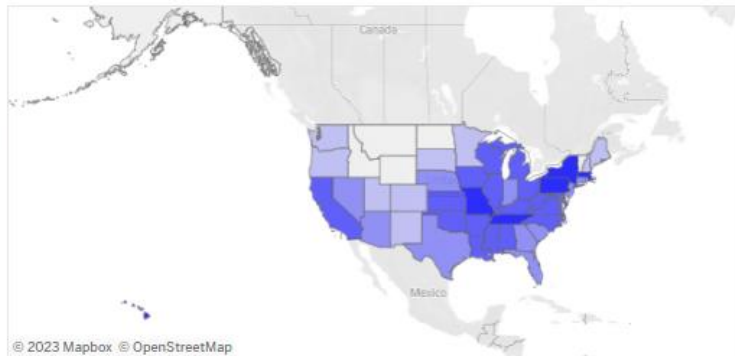
Where is the impact?

It is important to note **where** in the US has historically had the biggest impact due to influenza and what is expected in the next year.

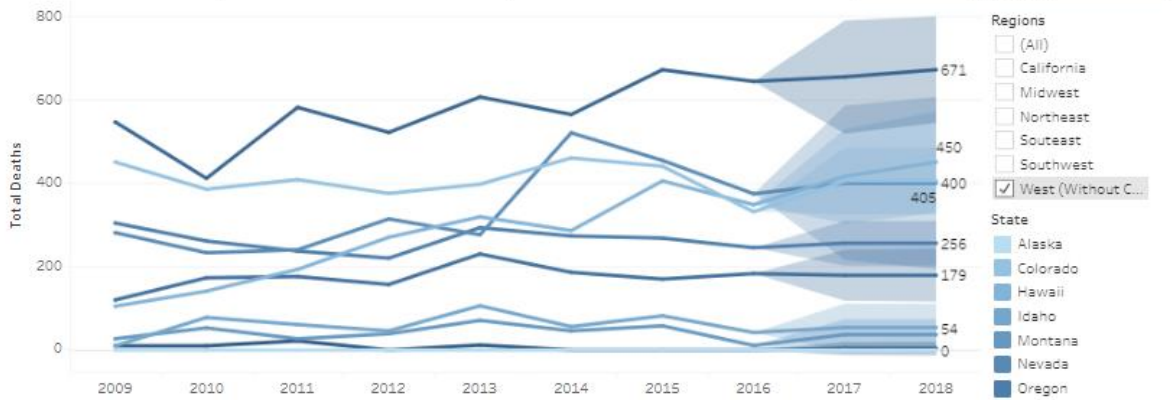
California has the **most** influenza deaths.

New York has the **highest** death rate.

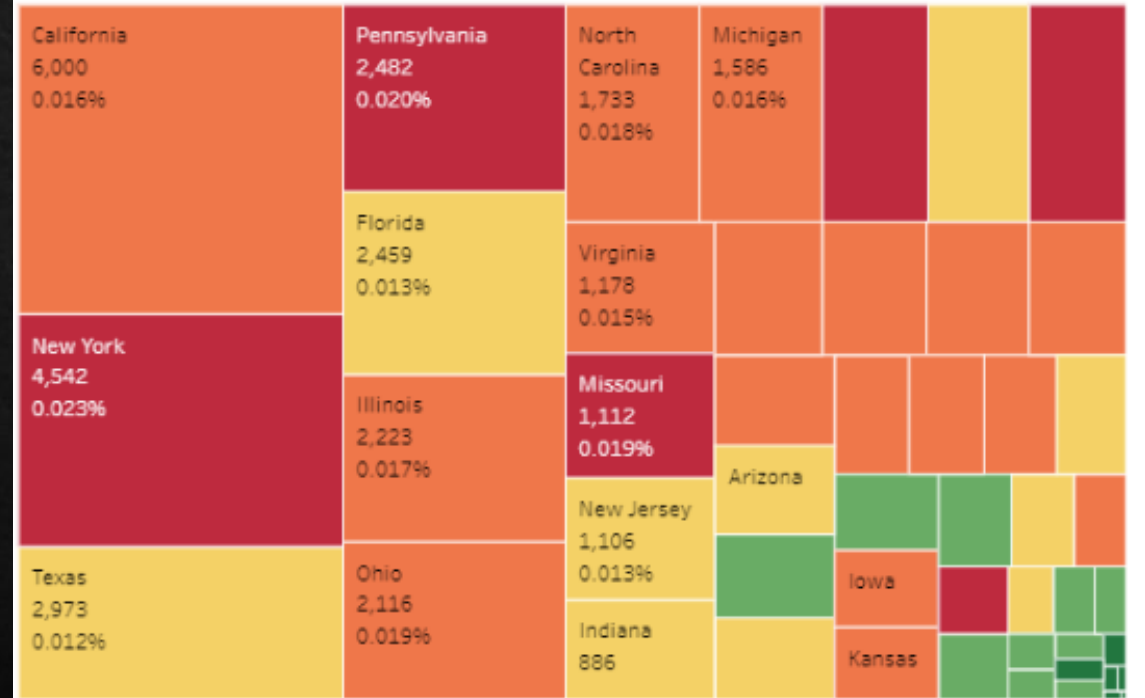
Florida has the **greatest** percentage of 65 and older population.



Yearly Influenza Death Counts by State With 2018 Predictions



State Need ~ Comparing Total Death Count and Death Rates



- ◆ Data driven insights based upon death rates, death totals, and high percentage of vulnerable populations to determine most at risk states.

Results

Recommendations

- ◆ Additional Staffing is needed from November through March.
- ◆ The vulnerable population of 65 yrs or older is 64 times more likely to have serious health concerns from the flu.
- ◆ Allocate staff based upon need (determined by both average yearly deaths and mortality rates):
 - ◆ Highest need: California, New York, Texas, Pennsylvania, Florida Illinois, Tennessee, Missouri, Massachusetts, Hawaii

Resources

- ◆ [Project Brief](#)
- ◆ [Tableau Dashboard](#)
- ◆ [Video Presentation](#)
- ◆ [Summary Report](#)



Rockbuster Stealth

Business Analysis for Change Management

Project Overview



Objective

A movie rental store is looking to revamp their current license and launch an online video service to stay competitive.

Goal: Work with the business intelligence department to help launch strategies for their new online service.



Key Questions

- Which movies contributed the most/least to revenue gain?
- What was the average rental duration for all videos?
- Which countries are Rockbuster customers based in?
- Where are customers with high lifetime value based?
- Do sales figures vary between geographic regions?

Data

Fictitious data set on Ruckbuster Stealth's inventory, staff, customers, payments, etc.

Download [Data Set](#)

Skills



Relational Databases

SQL

Database Querying

Filtering

Cleaning and Summarizing

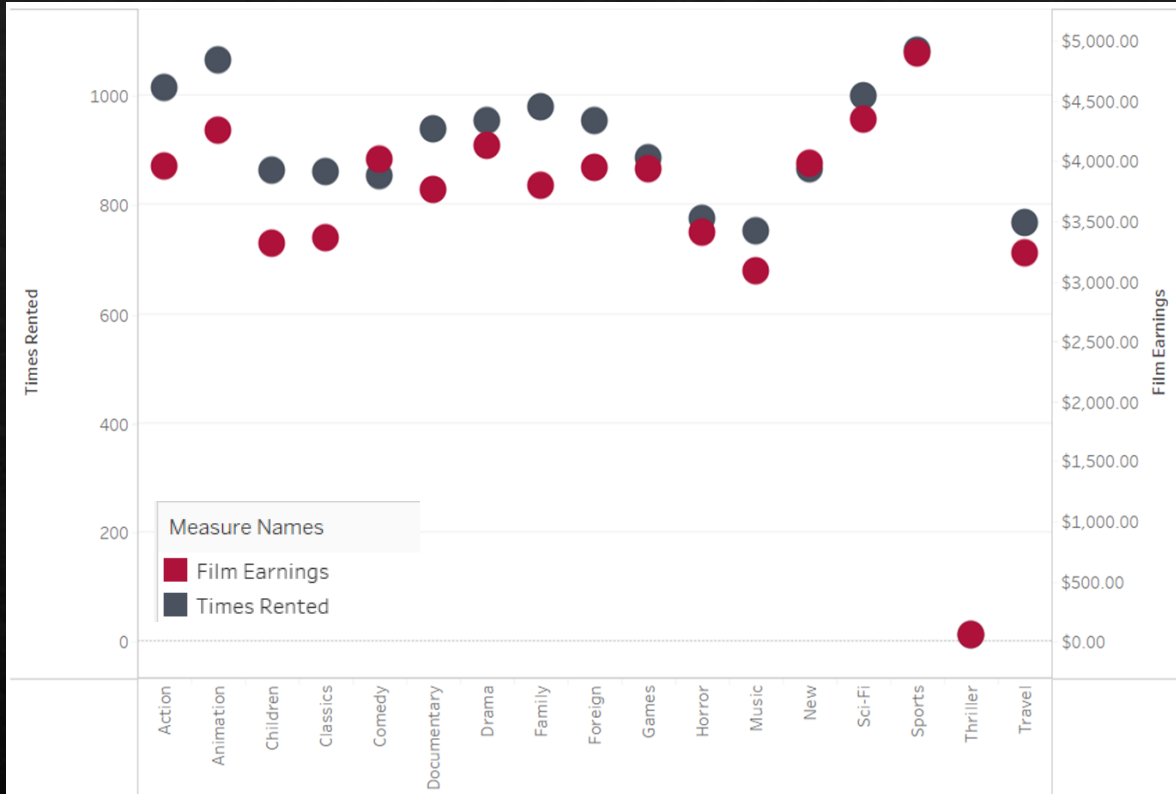
Joining Tables

Subqueries

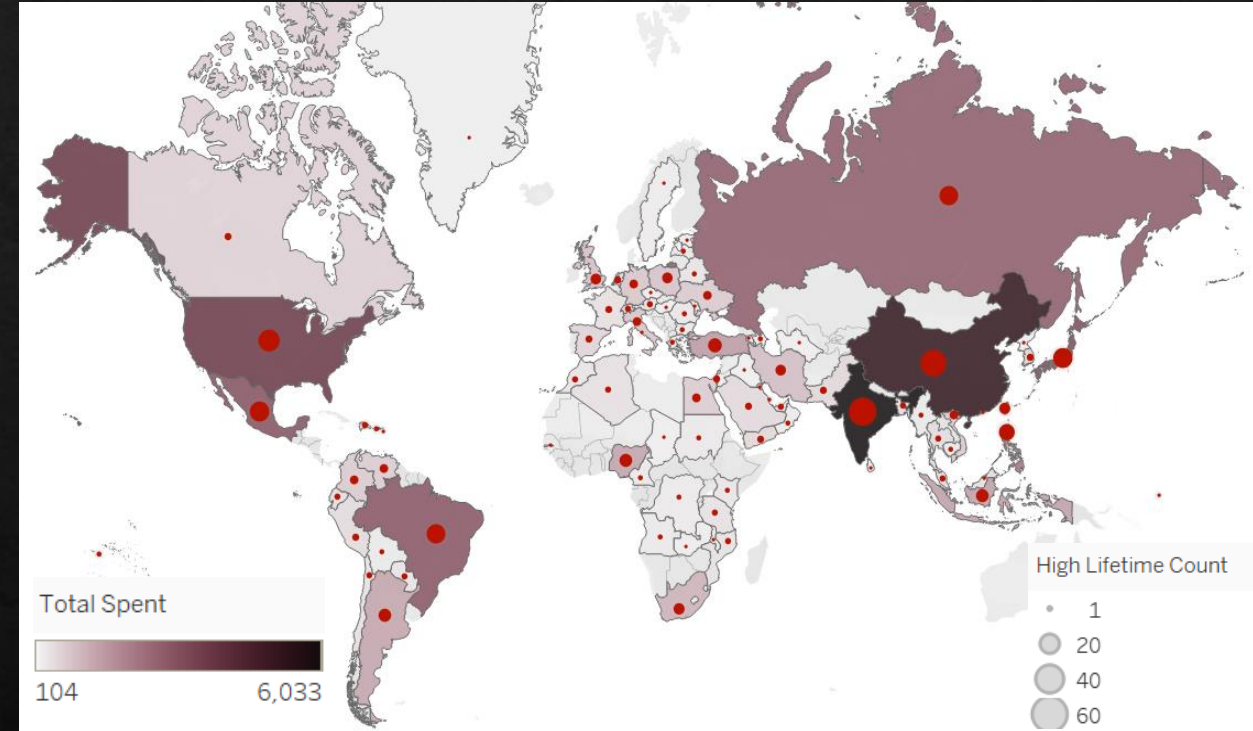
Common Table Expressions

Analysis

Assessing sales trends to determine customer base and inventory insights



- ◇ Most rented genres are Action, Animation, and sport.
- ◇ Most profitable genres are sports, animation, and sci-fi.



- ◇ High lifetime customers were defined as customers who spent over the average customer spending.
- ◇ India had the most, 60, lifetime customers.

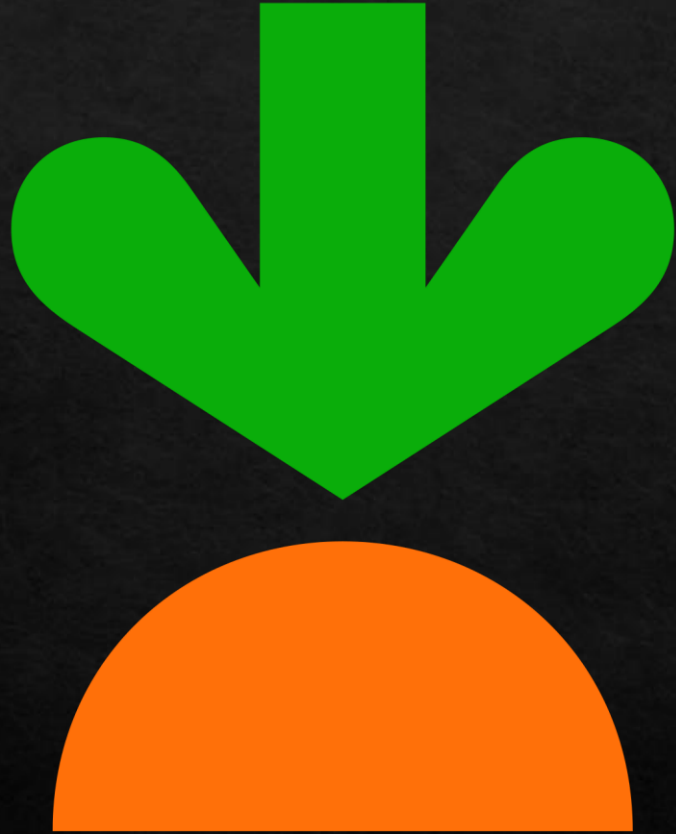
Results

Recommendations

- ◆ Focus on Action, Animation, Sports, and Sci-Fi movies.
- ◆ Rental rates should stay at or above the average of \$2.99 to increase revenue
- ◆ Target audience is India, China, and United States

Resources

- ◆ [Project Brief](#)
- ◆ [Final Presentation](#)
- ◆ [ERD](#)
- ◆ [Data Dictionary](#)
- ◆ [GitHub Repository](#)



Instacart

Grocery Basket Analysis

Project Overview



Objective

Instacart a grocery shopping application based in the US.

Goal: Perform initial data and exploratory analysis to derive insights and suggest strategies for better segmentation.



Key Questions

Stakeholders are interested in a variety of customers and their purchasing behaviors.

They want to target different customers with applicable marketing campaigns so see the effects on sales.

Data

Open-source datasets from Instacart. *Customer data set is fictional

“The Instacart Online Grocery Shopping Dataset 2017”, Accessed from www.instacart.com/datasets/grocery-shopping-2017 via Kaggle on May 2023.

Skills



Python

Data Wrangling

Data Merging

Deriving Variables

Grouping Data

Aggregating Data

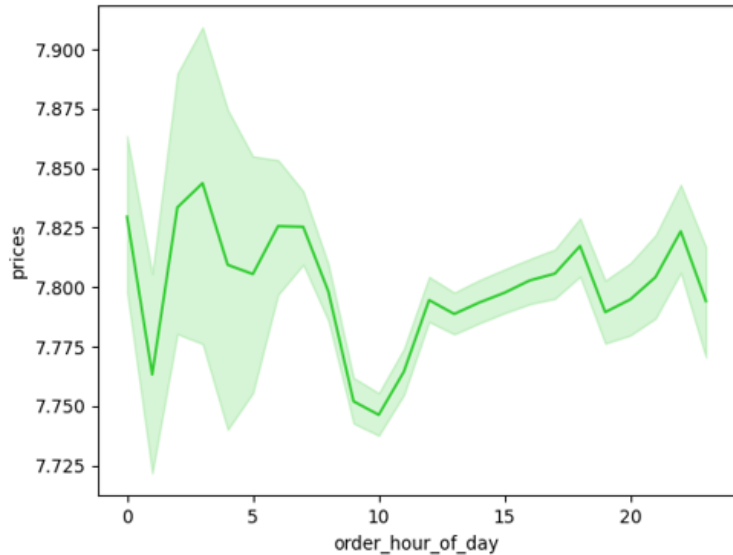
Reporting in Excel

Population Flows

Analysis

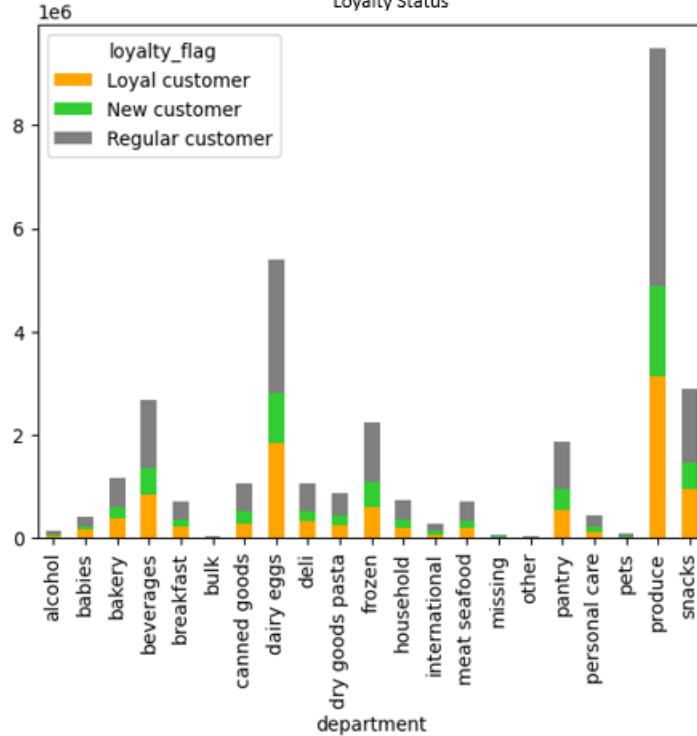
Assessing customer trends to develop marketing strategy

Spending within 24hrs



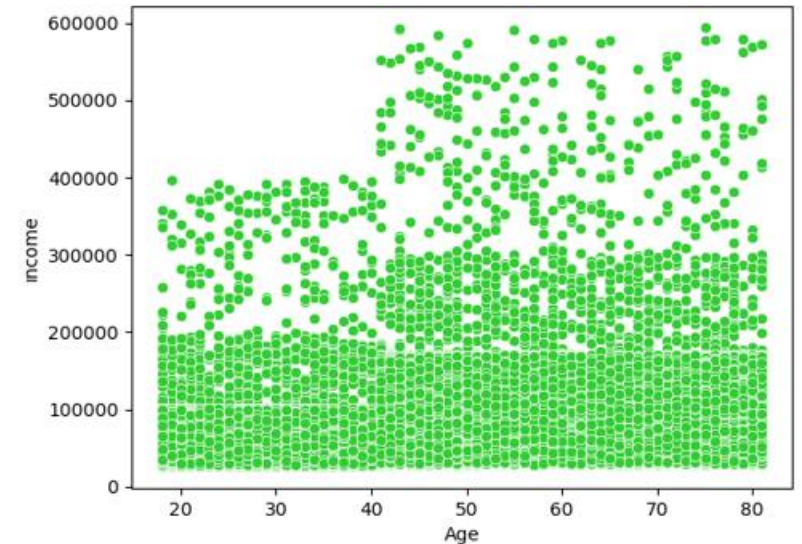
- ◇ The most amount of money spent is in the early morning (also highest variability in spending).

Frequency of purchases by department and Loyalty Status



- ◇ Loyal, regular, and new customers shop in the produce department the most

Income by Age



- ◇ Majority of income falls below \$200k. There is a subgroup of individuals over 40 who could have higher buying power.

Results

Recommendations

- ◇ **Target Audience:** Demographic is young to middle-aged customers, married with dependents who eat meat/seafood and produce, who have an income between \$65,000 - \$130,000 with no pets.
- ◇ **Considerations:**
 - ◇ Middle-aged families with dependents purchasing produce, snacks, beverages, dairy, and meats.
 - ◇ Explore a sub group that is in their 40s who have more spending power and advertise higher valued goods.

Resources

- ◇ [Project Brief](#)
- ◇ [Final Report](#)
- ◇ [GitHub Repository](#)



Maternal Pressures and A Mother's Education

Exploratory Analysis for Mothers

Project Overview



Objective

Women feel the pressures every day on whether to focus on their education and careers or starting a family.

Goal: Run an exploratory analysis to shed light on the relationships between mothers' education levels, their age, and ultimately their babies' health.

Skills



Sourcing Data
Geographic Visualizations in Python
Supervised Machine Learning
Unsupervised Machine Learning
Time Series Analysis in Python



Key Questions

Which states have the youngest moms?

Does education level of a mother impact the baby's health?

Is there a common education level and age for babies to be born?

Data

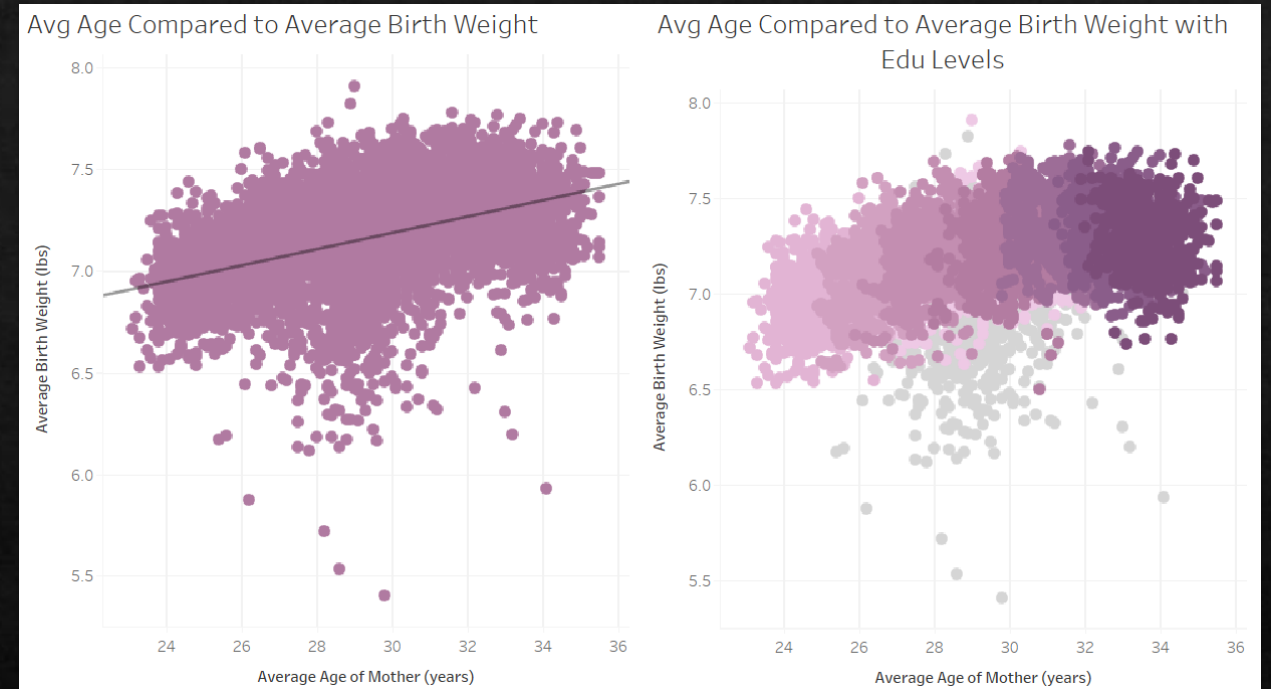
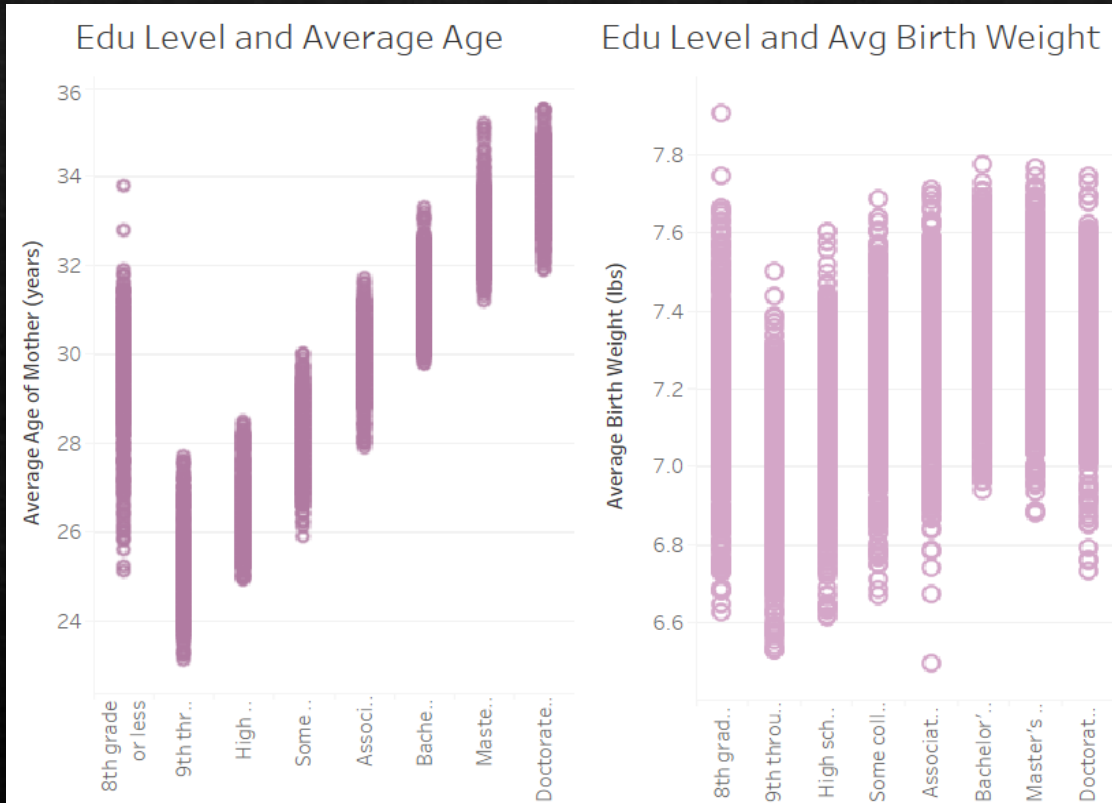
Open-source datasets from Instacart. *Customer data set is fictional

“The Instacart Online Grocery Shopping Dataset 2017”, Accessed from www.instacart.com/datasets/grocery-shopping-2017 via Kaggle on May 2023.



Analysis

Assessing birth records for exploratory analysis



◇ Noticing a relation between age of mother, education level and baby's birth weight.

◇ Diving deeper with statistical methods and cluster analysis to discover relationships.

Results

Recommendations

Take some pressure off, and get your education!

- ◆ The more education, the older the mother, which is producing babies closer to the national average baby weight of 7.5 lbs. Indicating waiting for child birth till after schooling, could be ideal.
- ◆ Arkansas, Mississippi, and West Virginia have the youngest mothers and should focus on marketing or state funding opportunities for higher education.
- ◆ Create awareness campaigns as the largest portion of babies (~25%) are being born to those with only a high school level education.

Resources

- ◆ [Tableau Storyboard](#)
- ◆ [Github Repository](#)



GameCo

Insights to Maximize Marketing

Project Overview



Objective

GameCo, a new video game company, wants to use data to inform the development of new games.

Goal: Perform descriptive analysis of a video game data set to foster a better understanding of how GameCo's newest games might fare in the market.



Key Questions

Are certain types of games more popular than others?

What other publishers will likely be the main competitors in certain markets?

Have any games decreased or increased in popularity over time?

How have their sales figures varied between geographic regions over time?

Data

This data set uses historical sales of video games (for games that sold more than 10,000 copies). This data was drawn from [VGChartz](#).

[Video Game Sales](#) Data Set

Skills



Grouping Data

Summarizing Data

Descriptive Analysis

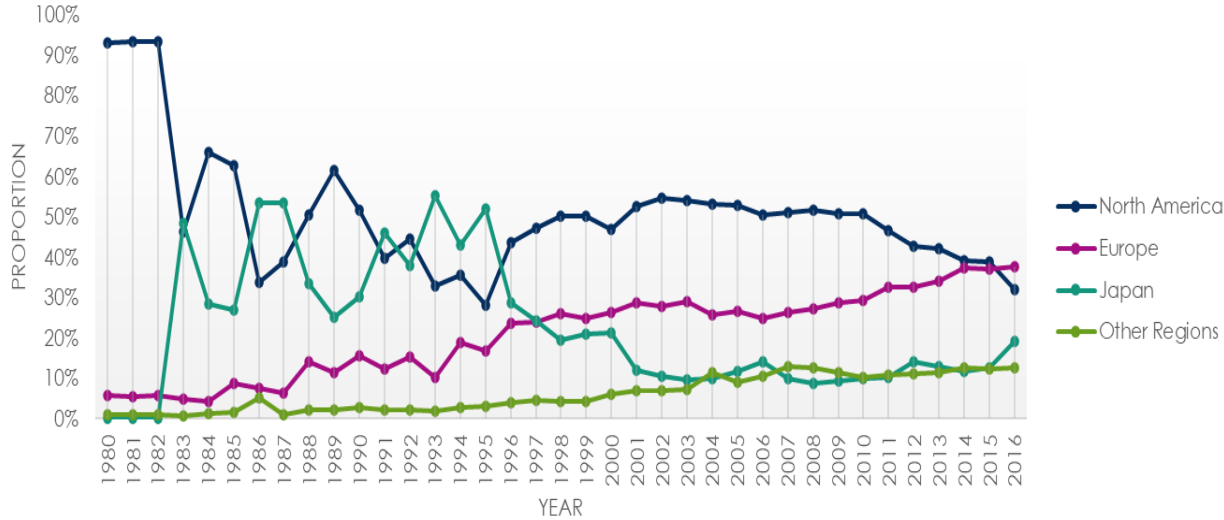
Visualizing results in Excel

Presenting Results

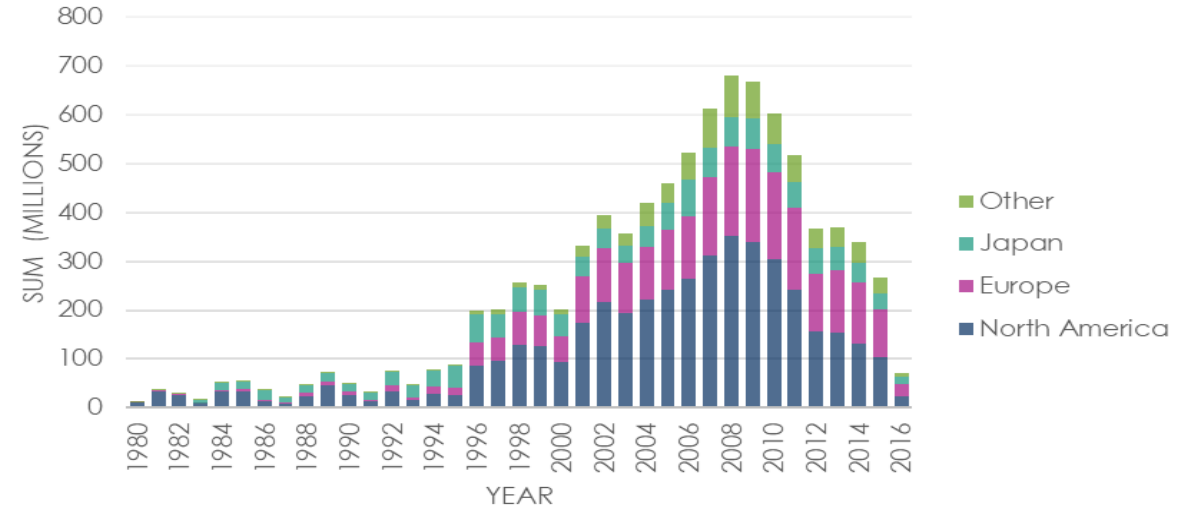
Analysis

Assessing global sales trends of video games from 1980 – 2016

Proportional Regional Sales



TOTAL SALES BY REGION



- ◇ Between 1980 and 1996 there was a lot of volatility in the portion of sales by region, specifically between Japan and the US.
- ◇ In 2015 Europe surpassed the US becoming the leading portion of sales by about 10%.

- ◇ North America has been the lead in overall sales averaging between 45-51%, peaking in 2008.

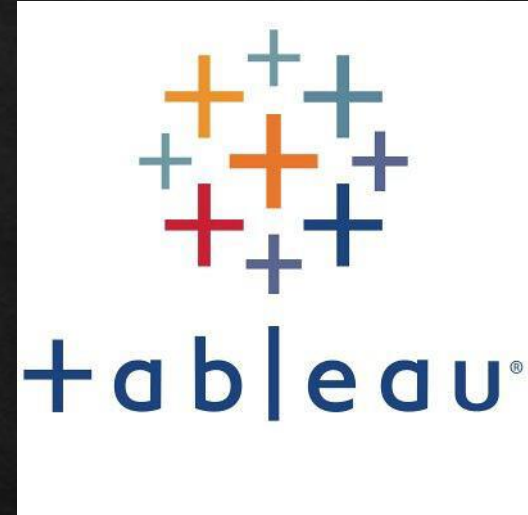
Results

Recommendations

- ◆ Focus marketing strategies in Europe and North America
- ◆ For Europe and North America focus on Shooter, Action, and Sports games on PS4 and X-Box One
- ◆ Japan has a market for Role-Play games and 3DS systems (not necessarily mutually exclusive)
- ◆ The video game industry has seen changes since 2008 which could be influenced by the higher demand of streaming games. More analysis should be done to determine if there is a better market.

Resources

- ◆ [Project Brief](#)
- ◆ [Final Presentation](#)
- ◆ [Project Reflections](#)



Thank You

Thea Layton

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Please reach out with any questions or if you'd like to work with me!