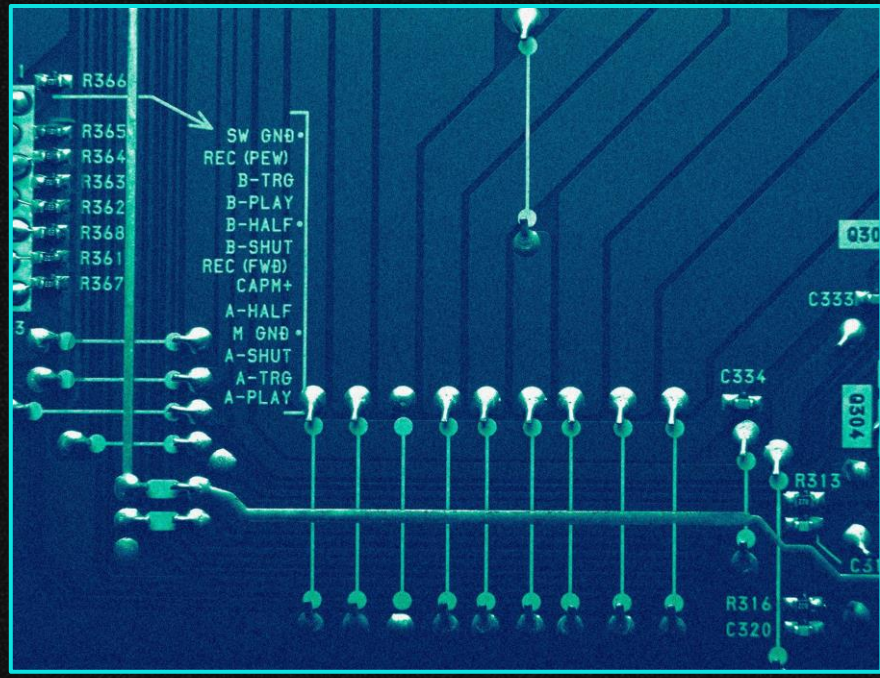
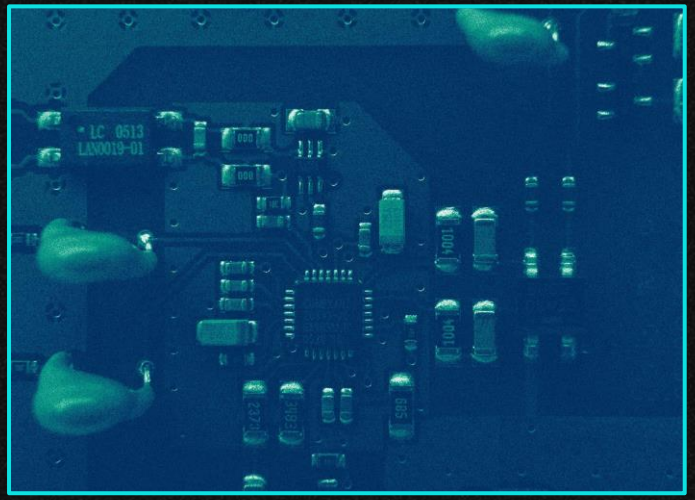
ANGELO CRUZ

DATA ANALYTICS TECHNOLOGY

DATA ANALYST



INTRODUCTION



- I am a skilled Data Analyst with a passion for uncovering insights and driving strategic decisions through data. With expertise in Python, SQL, and data visualization tools, I excel at transforming complex datasets into actionable intelligence.

- My experience includes predictive modeling, time-series analysis, and developing comprehensive reports that inform business strategies. I am committed to continuous learning and professional growth, always eager to tackle new challenges and contribute to innovative.

DATA PROJECTS

01

GAMECO

Regional Sales Analysis

02

INFLEUNZA

US Epidemic Analysis

03

ROCKBUSTER

Inventory Analytics

04

INSTACART

Operating Marketing Analytics

05

PIG E BANK

Finance

06

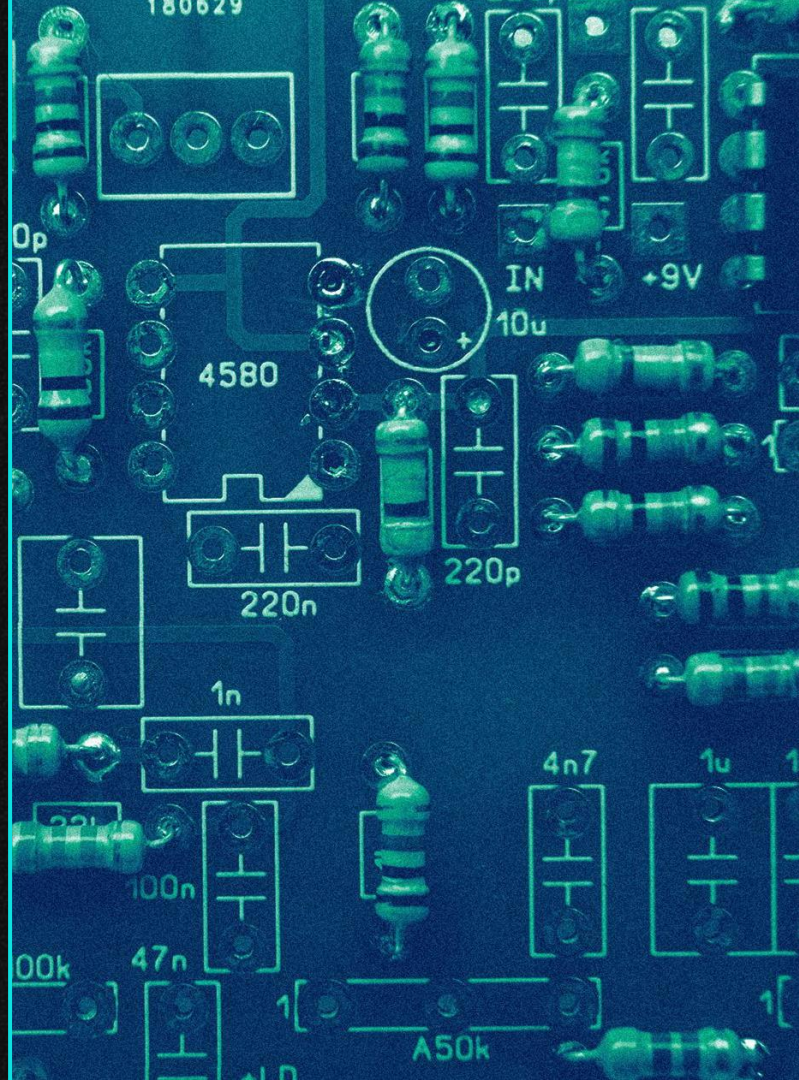
ACHIEVEMENT 6

TBA

01

GameCo Overview

Analysis & Insights



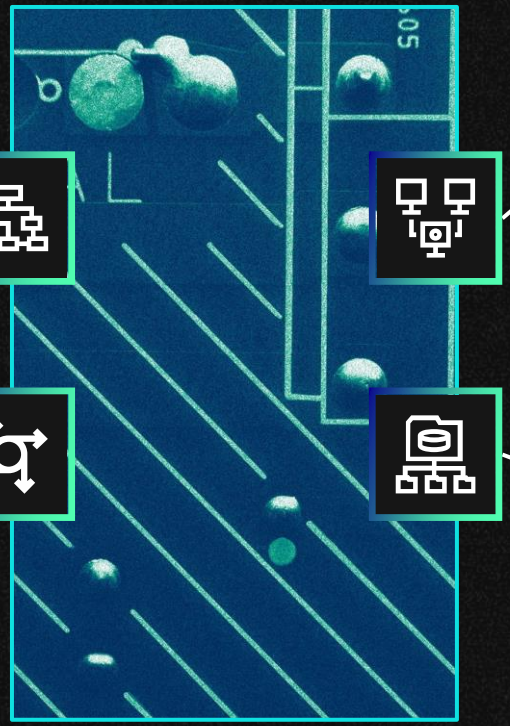
GAMECO: ANALYSIS & INSIGHTS

OBJECTIVE

GameCo, a new video game company, requests an analysis to foster a better understanding of develop a marketing strategy.

REQUIREMENTS

- Have any games decreased or increased in popularity over time?
- Are certain types of games more popular than others?
- What other publishers will likely be the main competitors in certain markets?

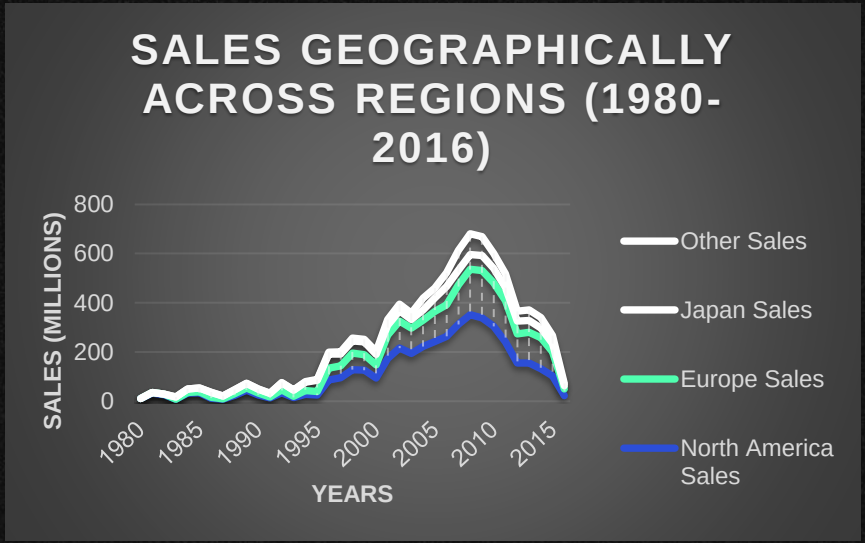


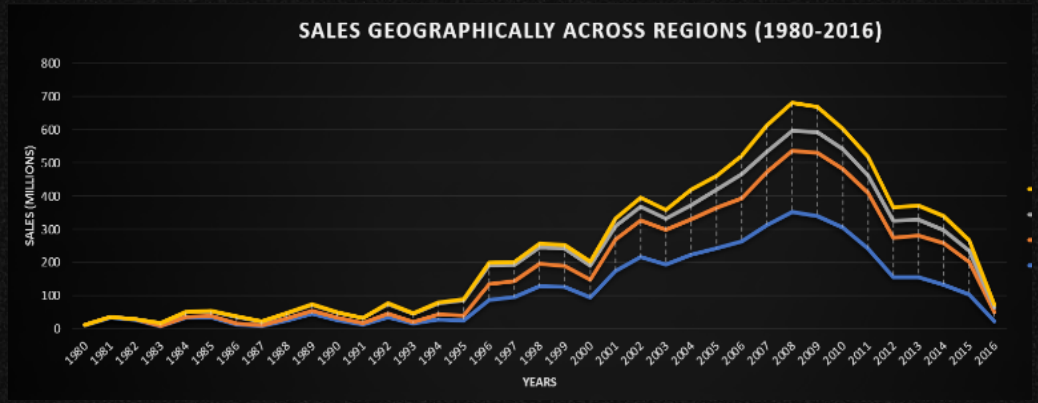
DATASET/TOOLS

Historical sales data from VGChartz. This is covering video games that sold over 10,000 copies between 1980 and 2020.

SKILLS

- Utilizing Pivot Tables
- Data cleaning
- Grouping & summarizing data
- Descriptive analysis



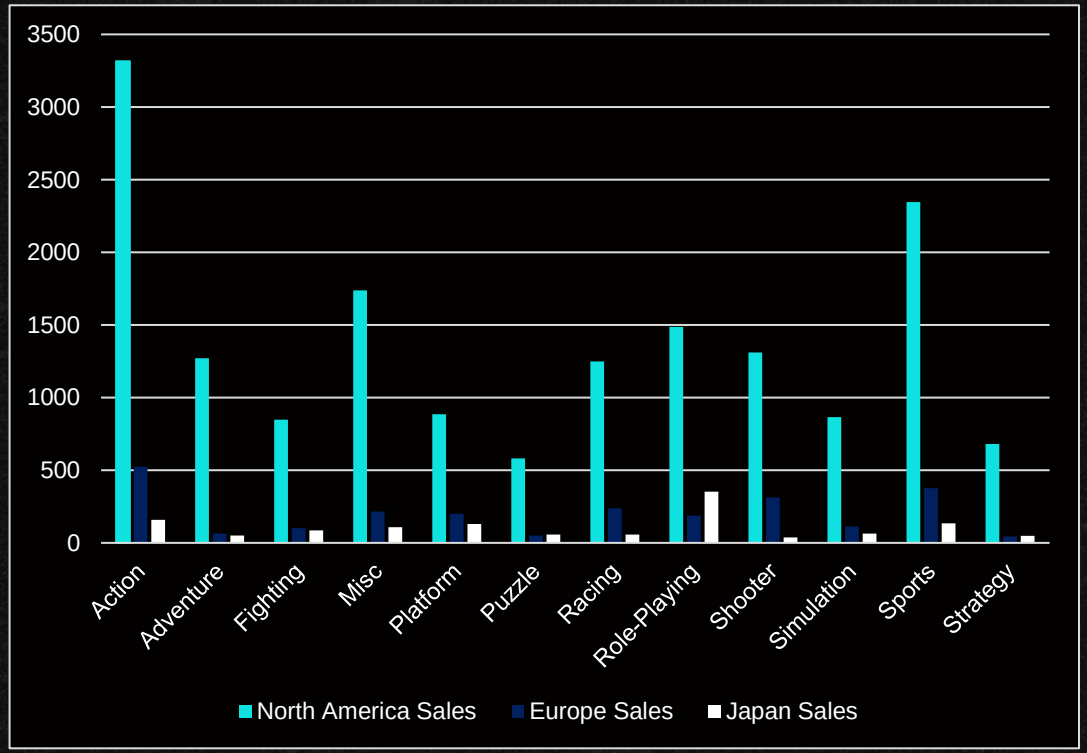


Introduction

GameCo's assumption that regional sales would remain constant over time was disproven by the line variations in the time series of each region's sales proportion.

To determine the decline in global video game sales after 2009, I examined the correlation between regional and global sales. North America exhibited the most significant influence, while Japan had the least. This suggests that North America has a substantial impact on global sales trends.

REGIONAL SALES BY GENRE (2000-2016)



EUROPE

The European and Japanese regions are head to head almost having similar sales margins within the genres of: Adventure, Fighting and Role-Playing,.

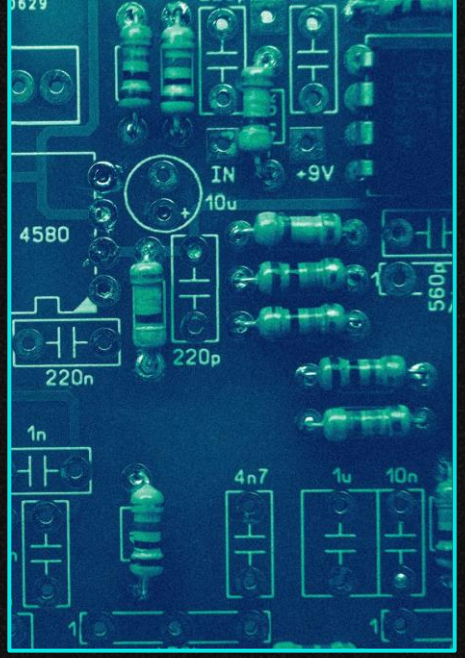
NORTH AMERICA

North American clearly dominated across the board in all genres.

JAPAN

Japan is the anomaly and differs from the other regions performing lower than anticipated.

Full PTT



02

Influenza Season Overview

Analysis & Insights

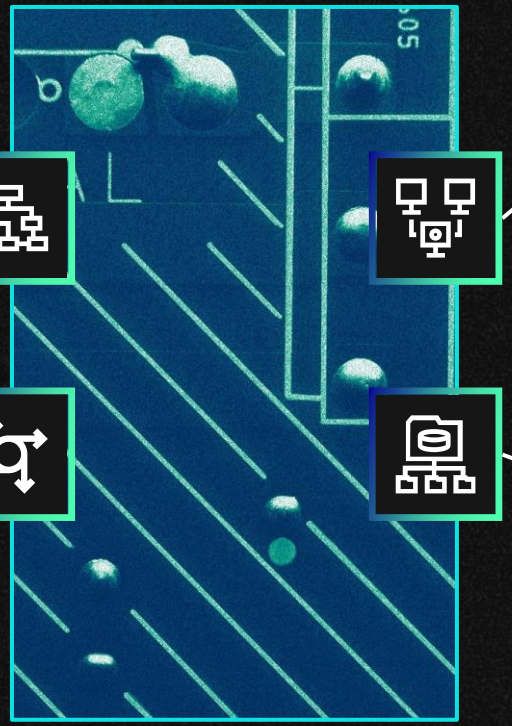
INFLUENZA: ANALYSIS & INSIGHTS

OBJECTIVE

Assist a medical staffing agency in planning to supply clinics and hospitals with enough temporary workers as needed during influenza season.

REQUIREMENTS

- Assess data limitations that may prevent you from conducting desired analysis.
- Determine if influenza occurs seasonally. If seasonal, when is it?
- Prioritize states with vulnerable populations.



DATASET/TOOLS

- Influenza deaths by geography (Source: CDC)
- Population data by geography, time, age, gender (Source:
- US Census Bureau)

SKILLS

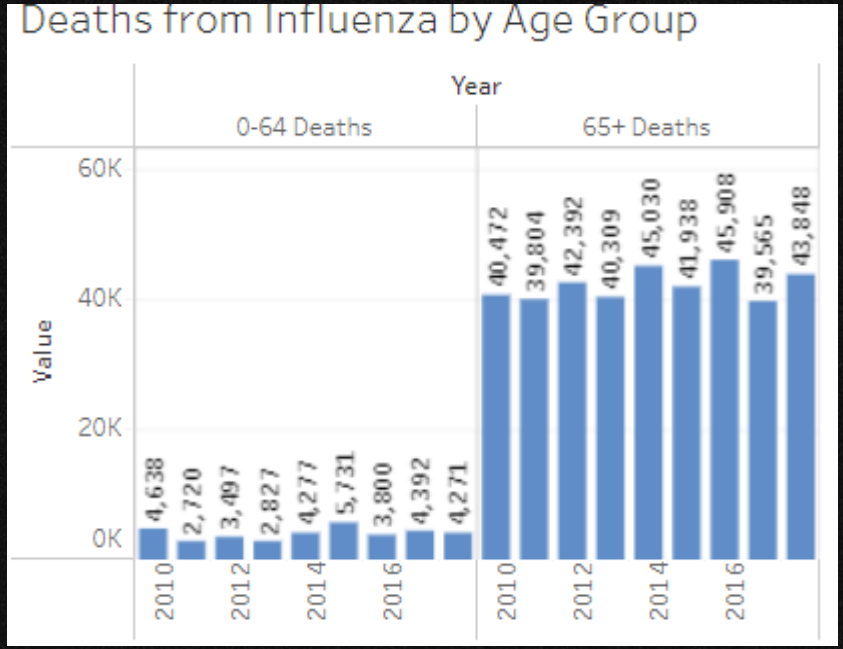
- Statistical hypothesis testing
- Storytelling in Tableau
- Presenting results
- Integration

INFLUENZA: ANALYSIS AND INSIGHTS

- To analyze influenza Seasonality, I investigated seven years of monthly death counts from January to December to study influenza seasonality. Influenza mortality increased from November to March, peaking in November, declining in March, and lowest in August. This shows the influenza season runs from mid-November to early March.

- To identify Vulnerable Populations, age was my main variable for identifying susceptible people, with gender being less important. Spatial analysis will employ state data. I plotted overall influenza death counts by age group using Tableau, indicating greater mortality rates for children and seniors.

- To establish criteria for categorizing states' needs during influenza season, I built a heat map showing susceptible population density in each state. This heat map shows regional sensitivity by showing the top 15 states with the most vulnerability.



INFLUENZA SEASON:

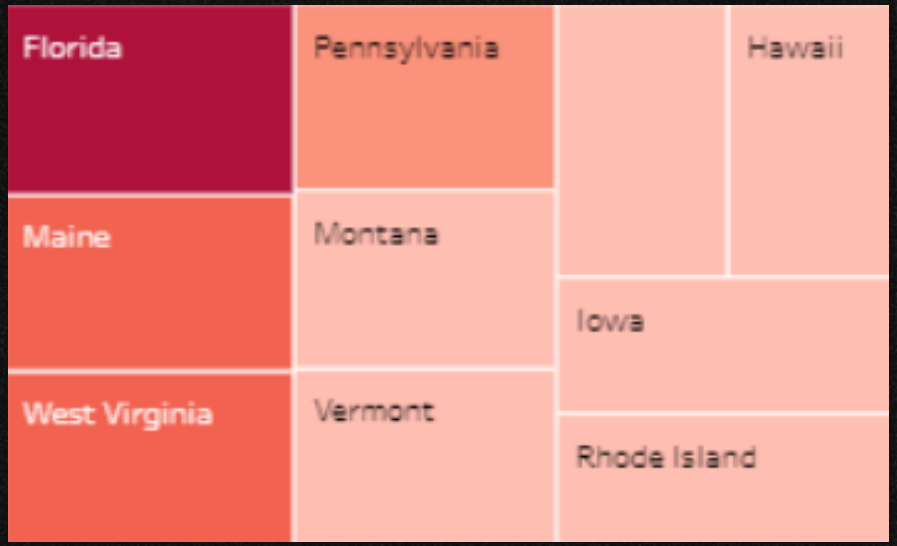
STATES THAT WILL REQUIRE MORE STAFFING

WHY DO WE NEED MORE STAFFING?

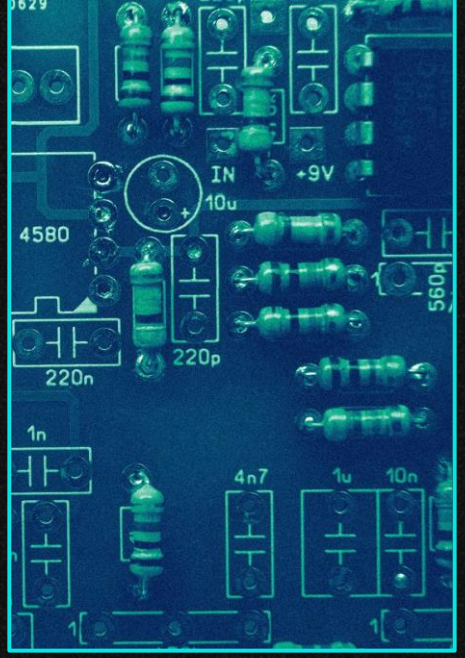
Based on our analysis, several states were identified as having a higher incidence of influenza-related deaths and therefore requiring additional staffing during influenza season. These states typically experience a higher burden of influenza activity, resulting in increased hospitalizations, ICU admissions, and demand for medical services.

Reasons of Increased Staffing:

- Surge in Patient Volume
- Enhanced Patient Care
- Prevention of Spread
- Response to Public Health Emergencies



View Presentation to Stakeholders Here



ROCKBUSTER Overview

Analysis & Insights

03

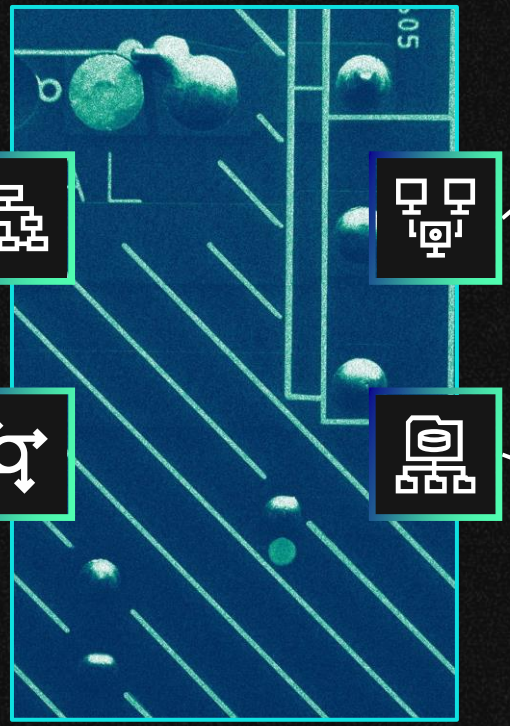
ROCKBUSTER: ANALYSIS & INSIGHTS

OBJECTIVE

Rockbuster Stealth LLC intends to establish an online video rental service by leveraging its existing movie licenses in order to remain competitive in the face of intense competition from streaming services such as Amazon Prime and Netflix.

REQUIREMENTS

- Do sales figures vary between geographic regions?
- Which movies contributed the most/least to revenue gain?
- Which countries are Rockbuster customers based in?



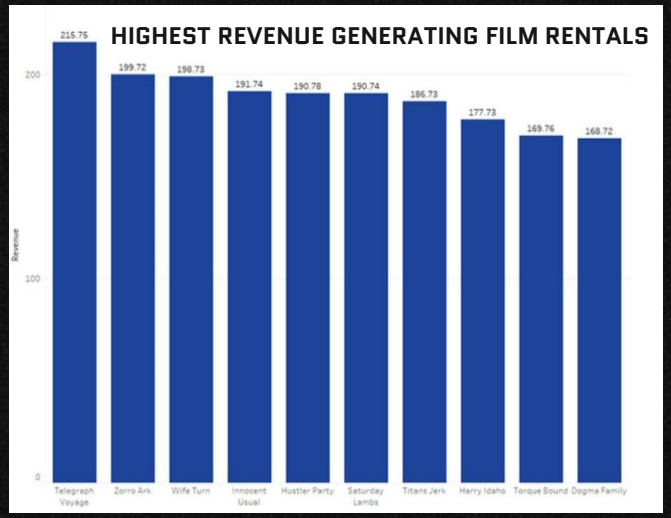
DATASET/TOOLS

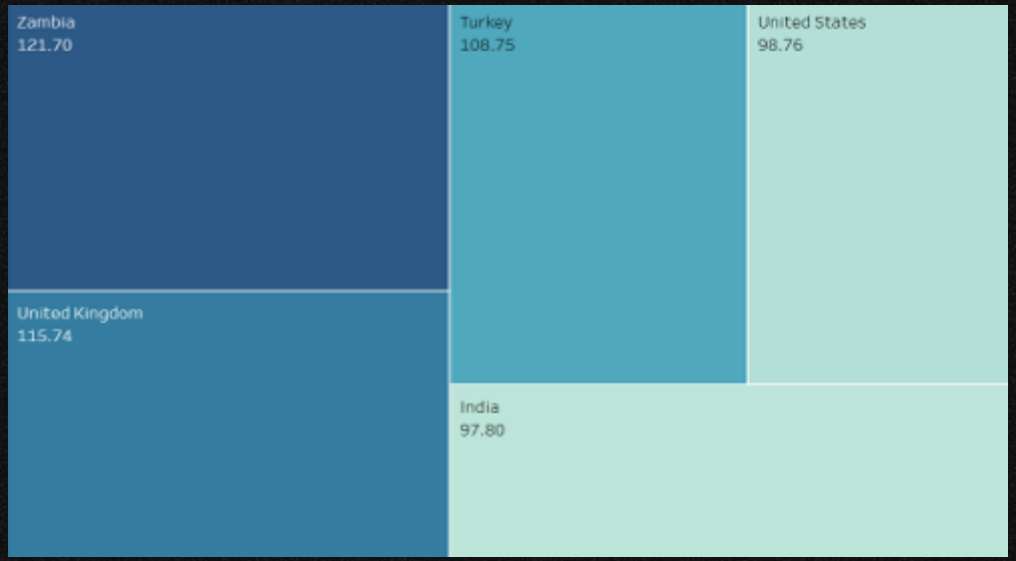
- SQL and Tableau
- Excel and Powerpoint
- PG Admin 4

SKILLS

- Common Table Expressions
- Performing subqueries
- Database querying with SQL
- Joining Tables

ROCKBUSTER: ANALYSIS & INSIGHT





I used SQL to query and identify unclean data and inconsistencies. Afterwards, I calculated summary statistics for key variables like rental durations and revenue by genre.

Working with a relational database, I utilized joins and subqueries to retrieve the data needed to answer our business questions. This included identifying the top 10 countries of our customer base and the top 5 customers.

ROCKBUSTER: RESULTS & RECOMMENDATIONS

MARKET STRATEGY

Maintain niches in the top 10 countries to sustain revenue. With the rest of the world contributing 50% of revenue from just 39% of the customer base, there's significant opportunity to expand customer bases with targeted market strategies.

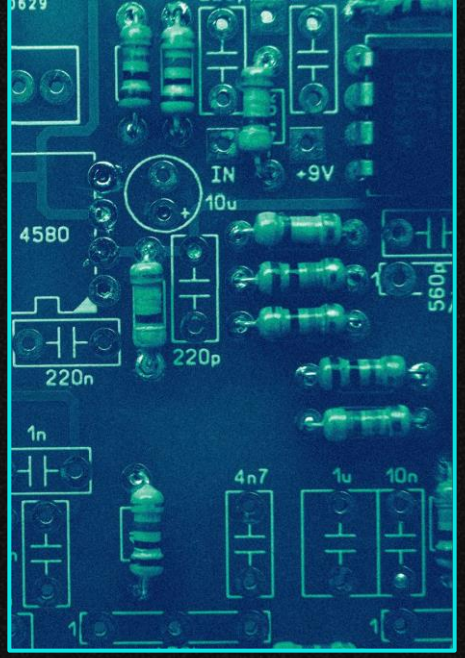
PRODUCT STRATEGY

Maintain inventory of top revenue-generating genres and phase out the Thriller genre upon license expiration due to its lower revenue potential, unless popularity trends shift.

DELIVERABLES

- **Data Dictionary**: documentation of data
- **Excel Workbook**: data analysis for colleagues
- **Visualization**: created in Tableau
- **Presentation**: In-depth analysis and reporting

View Rockbuster PPT here



INSTACART
Overview

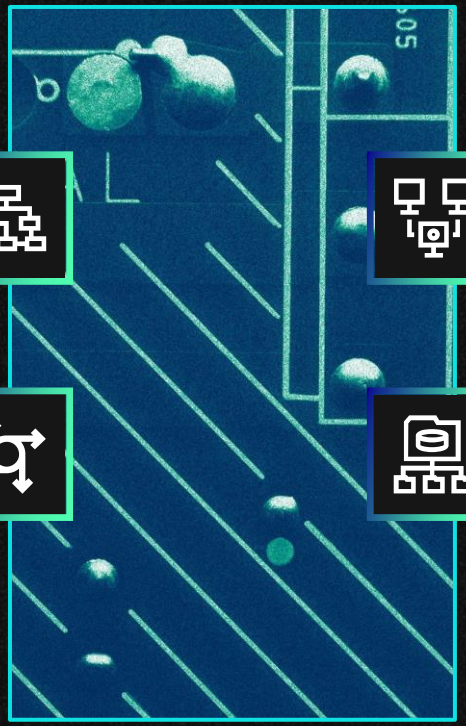
Analysis & Insights

04

INSTACART: ANALYSIS & INSIGHTS

OBJECTIVE

Instacart desires to gain further insight into their sales habits. The objective is to extract practical and useful observations and suggest methods of dividing a group based on the given criteria.



DATASET/TOOLS

- Open Source Datasets from Instacart

REQUIREMENTS

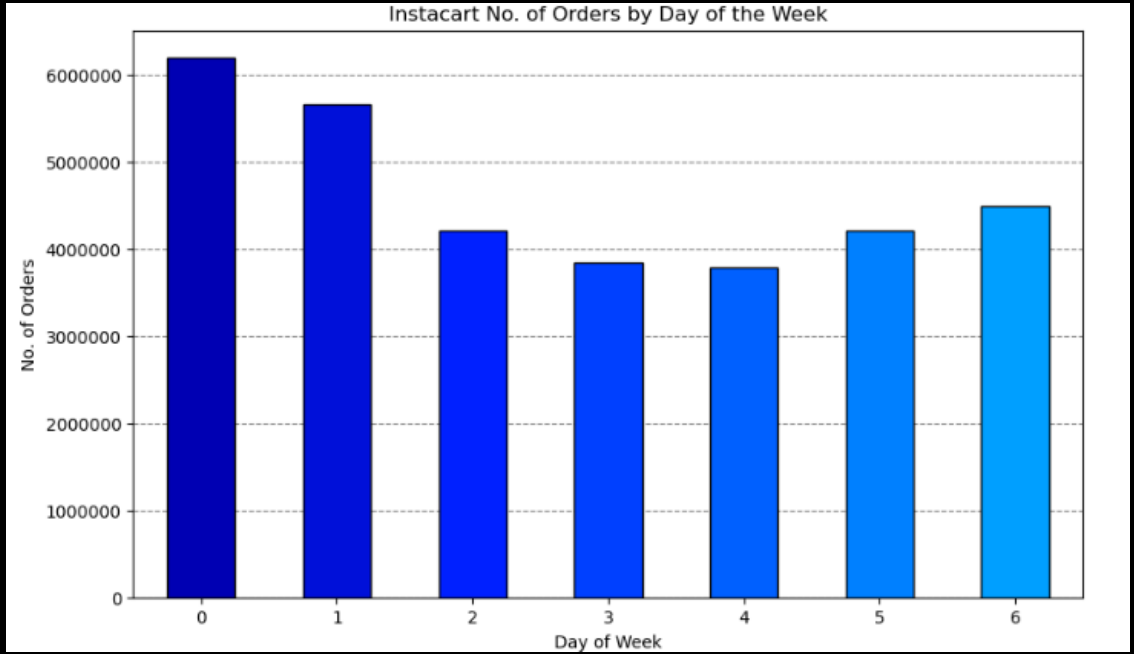
- Explore customer segmentation and ordering behaviors to enhance targeting strategies.
- Identify peak spending times to tailor product advertisements.
- Analyze popular product types across departments to guide marketing efforts.

SKILLS

- Reporting in Excel
- Python
- Populations flows
- Deriving variables

INSTACART BASKET

ANALYSIS & INSIGHTS



Assessing Regional Differences

In order to discern regional disparities, I compiled the cumulative figures for the total number of orders and prices across all regions. The South exhibited the highest level of expenditure, but no discernible patterns were seen. Expenditure remained uniform across all regions.

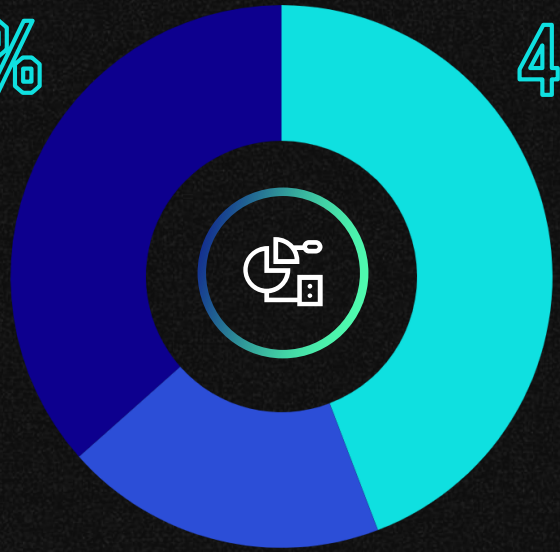
Customer Profiling

I analyzed our customer base using Python, categorizing them by income, age, marital status, and dependent status to create new variables.

Understanding our Products

To analyze popular product types, I **used Python to create a bar chart of the top 15 items by sales count**. This visualization highlights key products driving sales, aiding inventory and marketing decisions.

Customer Preferred Shopping Time Profile



- Morning Shopper
- Afternoon Shopper
- Evening Shopper

Identifying Peak Shopping Times

To identify peak spending times, I generated bar charts showing the number of orders placed **variables to categorize customers' shopping patterns**. This analysis helps in optimizing marketing and inventory strategies.

INSTACART
RESULTS & RECOMMENDATIONS

PRICE RANGE STRATEGY

01

Use volume-driven promotions for low-range products, broad marketing campaigns for mid-range products, and tailored commercials for high-range ones.

CUSTOMER LOYALTY

02

Develop loyalty programs to encourage regular and new customers to increase their orders

PRICE TRENDS

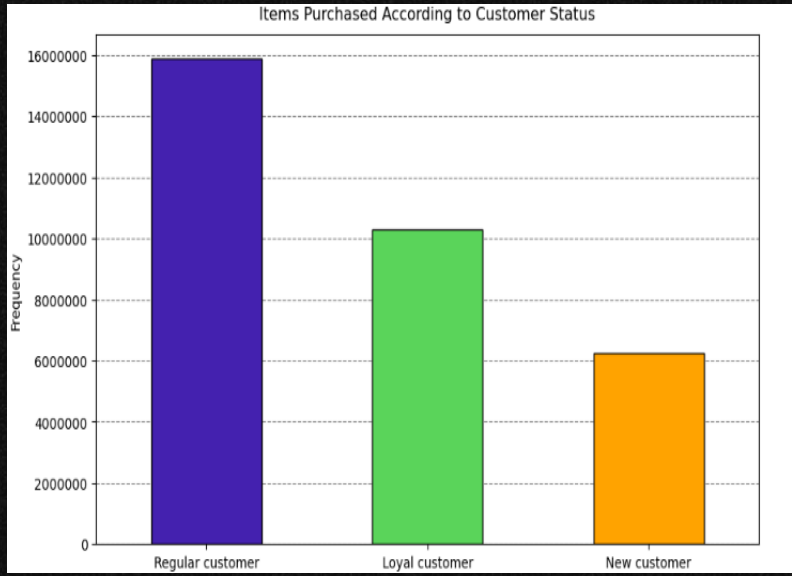
03

At 8 AM, 11 AM, 5 PM, and 8 PM, look for flash bargains or bundle offers.

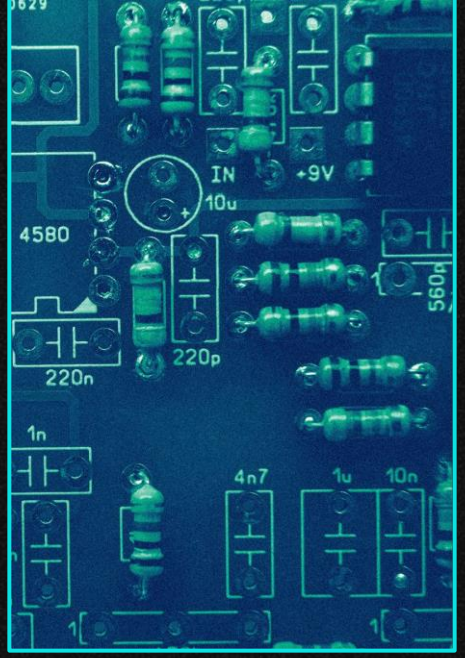
REGIONAL OPTIMIZATION

04

Adjust inventory, staffing, resource allocation, and advertising to match.



View Complete project on GitHub repository here



05

PIG E BANK
Overview

Analysis & Insights

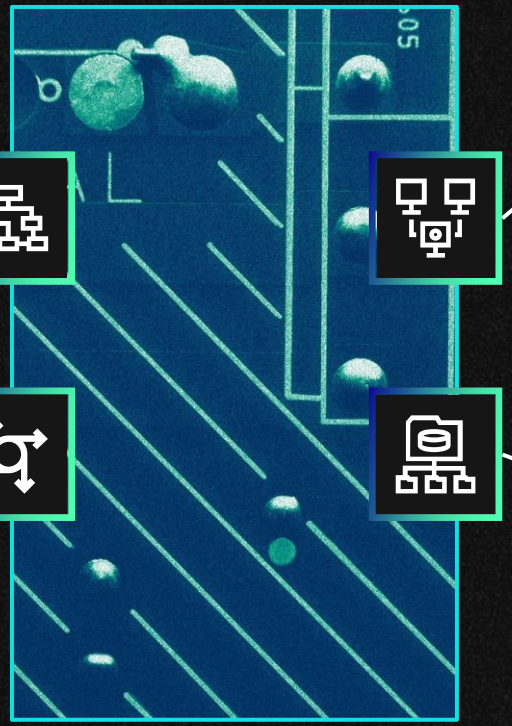
PIG E BANK: ANALYSIS & INSIGHTS

OBJECTIVE

At Pig E. Bank, we studied customer satisfaction data to identify reasons for attrition and reduce churn rates. Pig E. Bank, a multinational bank, needs analytical support to enhance anti-money laundering requirements.

REQUIREMENTS

Identifying indicators that indicate a customer is very probable to terminate their relationship with the bank.



DATASET/TOOLS

- Pig E Bank client data

SKILLS

- Handling big data
- Using GitHub
- Predictive Analysis
- Data Mining

PIG E BANK: OVERVIEW

ANALYSIS & INSIGHTS

Before evaluating the data, I fixed formatting and missing values in Excel. I anonymized the data by deleting PII (personally identifying information) like first and surname names, leaving consumers solely identifiable by their account numbers.

To evaluate client data, I divided it into two groups: those who stayed with the bank and those who left using a flag. Next, I compared pivot tables and calculated summary statistics for each group to discover significant data.

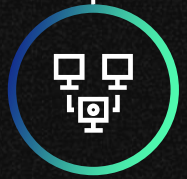
	Current Customers			
	Min	Max	Mean	Mode
Credit Score	411	850	652	850
Country				France
Gender				Male
Age	18	82	38	36
Tenure	0	10	5	8
Balance	0	$197,041.80	$74,830.87	0
Number of Products	1	3	2	2
Has Credit Card				1
Active Member				1
Exited from Bank				0
Estimated salary	$371.05	$199,661.50	$98,942.45	N/A

PIG E BANK: OVERVIEW

ADDITIONAL FINDINGS

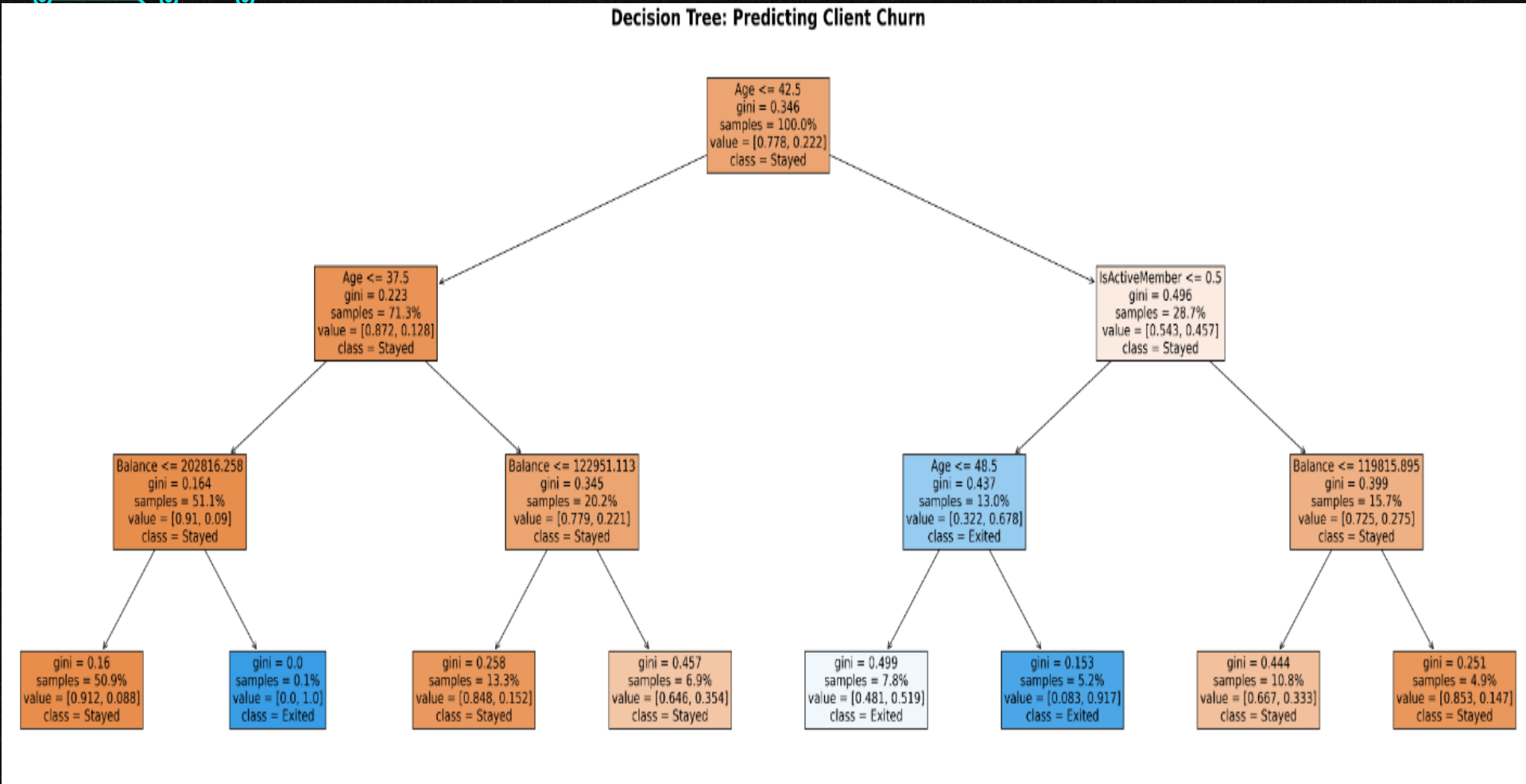
Female customers form the largest group of those leavings.

Credit scores are consistent among all customers, but the average score is lower for those who exit the bank.



German Customer make up a high proportion of those leaving compared to current customers.

Decision Tree



PIG E. BANK

RESULTS & RECOMMENDATIONS

The top three factors leading to client departures are:

1. **Age**: Customers over 40 constitute the greatest percentage of former customers.
2. **Number of Products**: Customers with only one product or those with three or more products are more likely to exit the bank.
3. **Member Activity**: Inactive customers have a higher likelihood of leaving the bank.

Targeted Retention Campaigns

Develop personalized retention strategies for customers over 40, such as customized offers and enhanced customer service, to address their specific needs and concerns. Implement special promotions and personalized communication campaigns to re-engage inactive customers and encourage account activity.

Thank You!

ANGELO CRUZ
Data Analyst