

# DATA ANALYTICS PORTFOLIO

ANALYST NAME

SOLOMON NITESH DEVANEYAN





## ABOUT ME

Hi, I'm Solomon Nitesh Devaneyan. I'm a data analyst with intensive knowledge in Automotive systems and have good customer service skills from working as a Technician in the Automotive industry doing maintenance service for a customer's vehicle. I convince our customers to buy our product and recommend other services that need to be done on their vehicle.

With my ability to develop natural customer interactions and knowledge in the Automotive field I can bring these values to my new role as a data analyst by analyzing the performance and sales for an Automotive company throughout the years and give solutions on how to improve the performance of a vehicle and which model of the vehicle are most in demand and give suggestions on how to increase the sales for models that are low in sales.

My goal is to find a job in which I can contribute to product and sales development and provide customer satisfaction.

# PROJECTS OVERVIEW



Staffing Plan for  
Influenza



Rockbuster  
Stealth Analysis



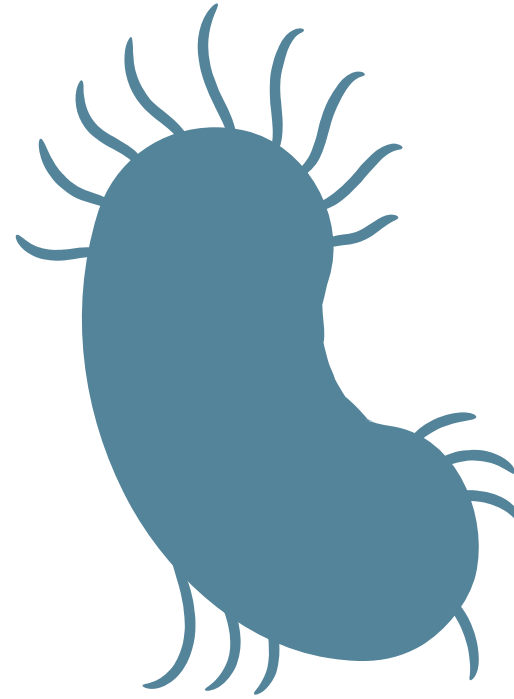
Instacart Market  
Analysis



Game Co



Pig E Bank



# Staffing Plan for Influenza Season

ANALYST NAME  
SOLOMON NITESH DEVANEYAN

## PROJECT GOAL

To help a medical staffing agency that provides temporary workers to clinics and hospitals on an as-needed basis. The analysis will help plan for influenza season, a time when additional staff are in high demand. The final results will examine trends in influenza and how they can be used to proactively plan for staffing needs across the country.

## TOOLS USED

- Microsoft Excel
- Tableau

[Influenza Dataset](#)

[Population Dataset](#)

# INTRODUCTION

## STAFFING PLAN INFLUENZA SEASON



FLU SEASON

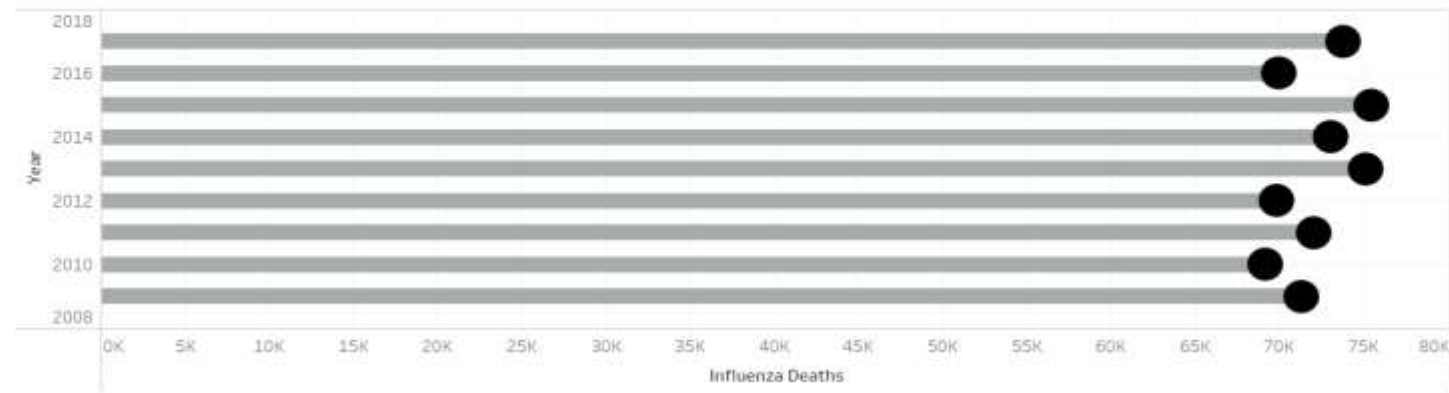
### Project Overview

**Motivation:** The United States has an influenza season where more people than usual suffer from the flu. Some people, particularly those in vulnerable populations, develop serious complications and end up in the hospital. Hospitals and clinics need additional staff to adequately treat these extra patients. The medical staffing agency provides this temporary staff.

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

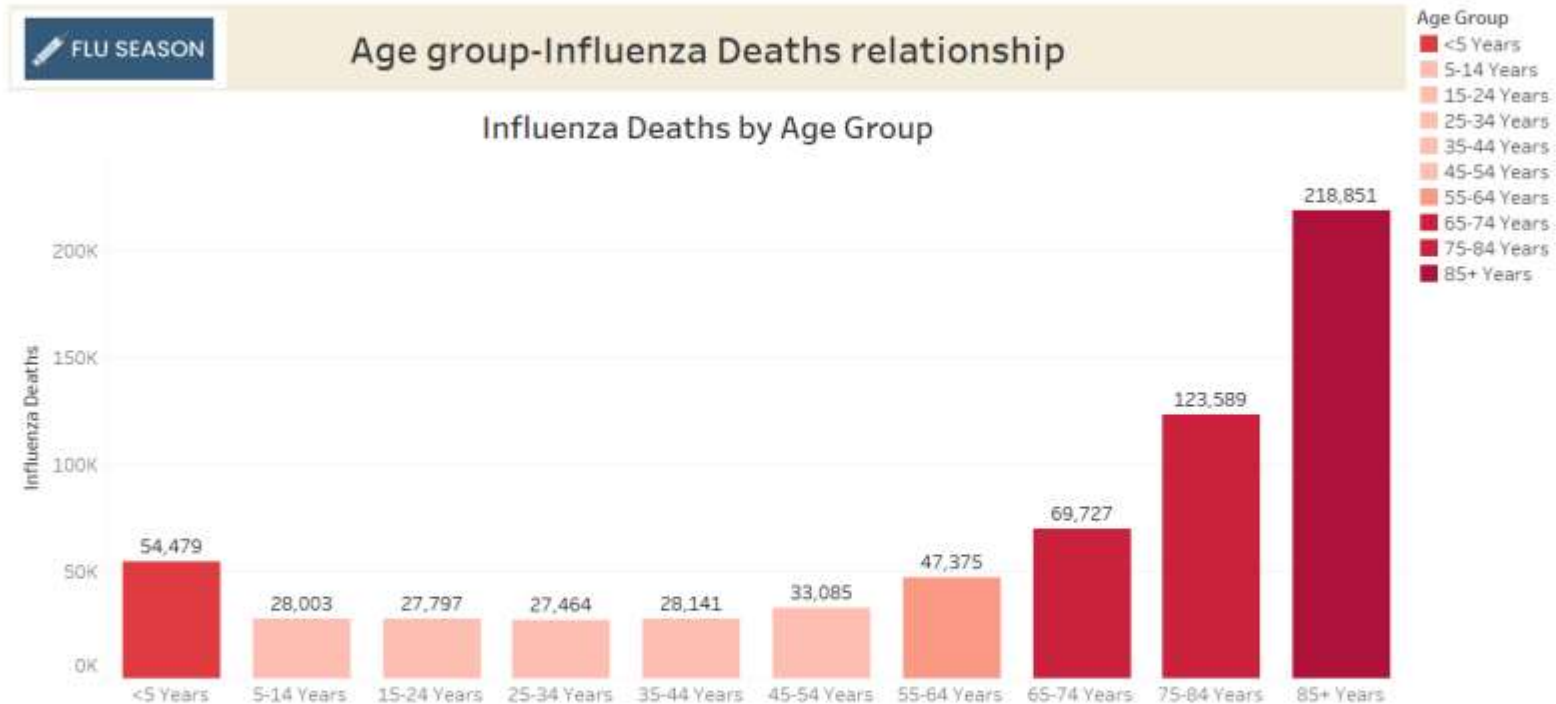
**Scope:** The agency covers all hospitals in each of the 50 states of the United States, and the project will plan for the upcoming influenza season.

Influenza Deaths Each Year





## STAFFING PLAN INFLUENZA SEASON

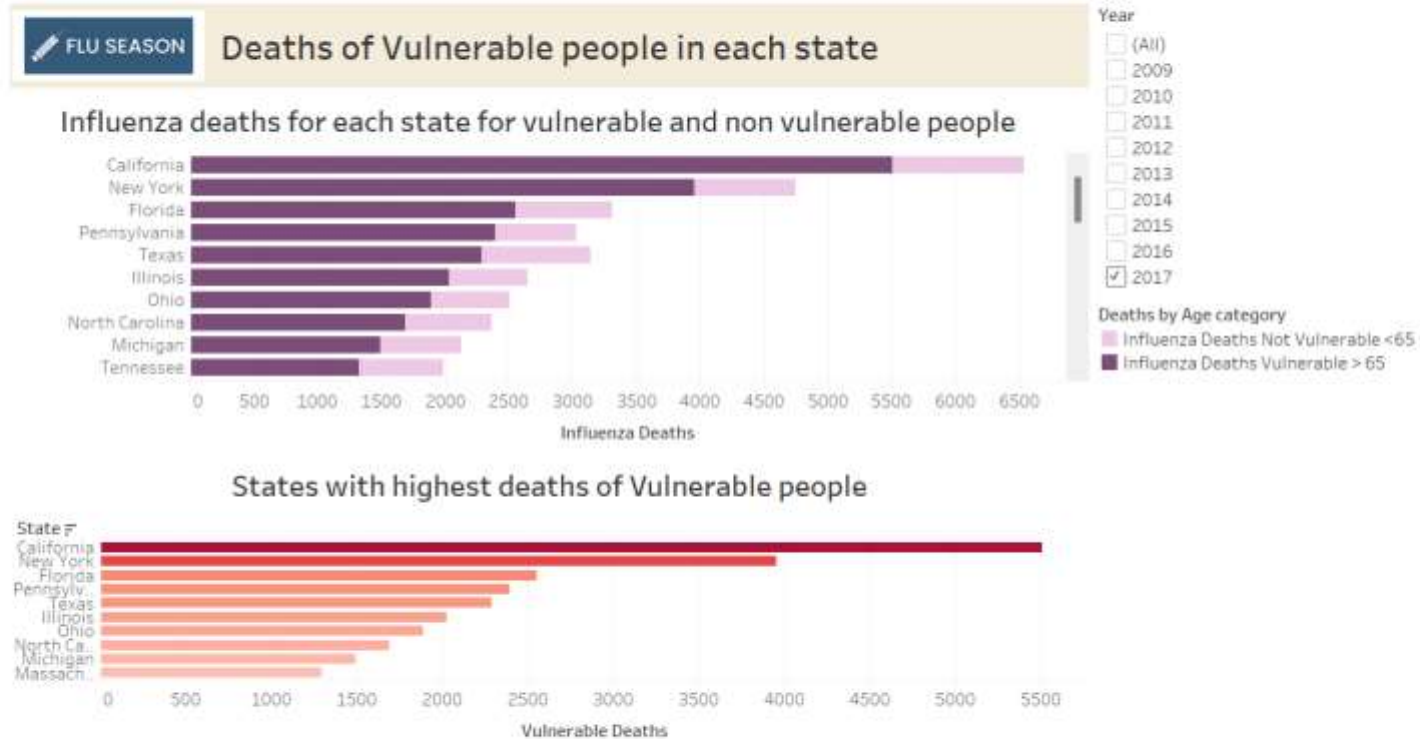


From the bar chart between Age group and Influenza Deaths we can see that the people aged less than 5 and above 65 years are the ones most likely to die during Influenza season.

People aged above 85 have the highest number of deaths amounting up to 218,851.

Elderly people are the ones who are most likely to die during the Influenza season so further analysis should be done for the age group above 65 + years across the country.

## STAFFING PLAN INFLUENZA SEASON

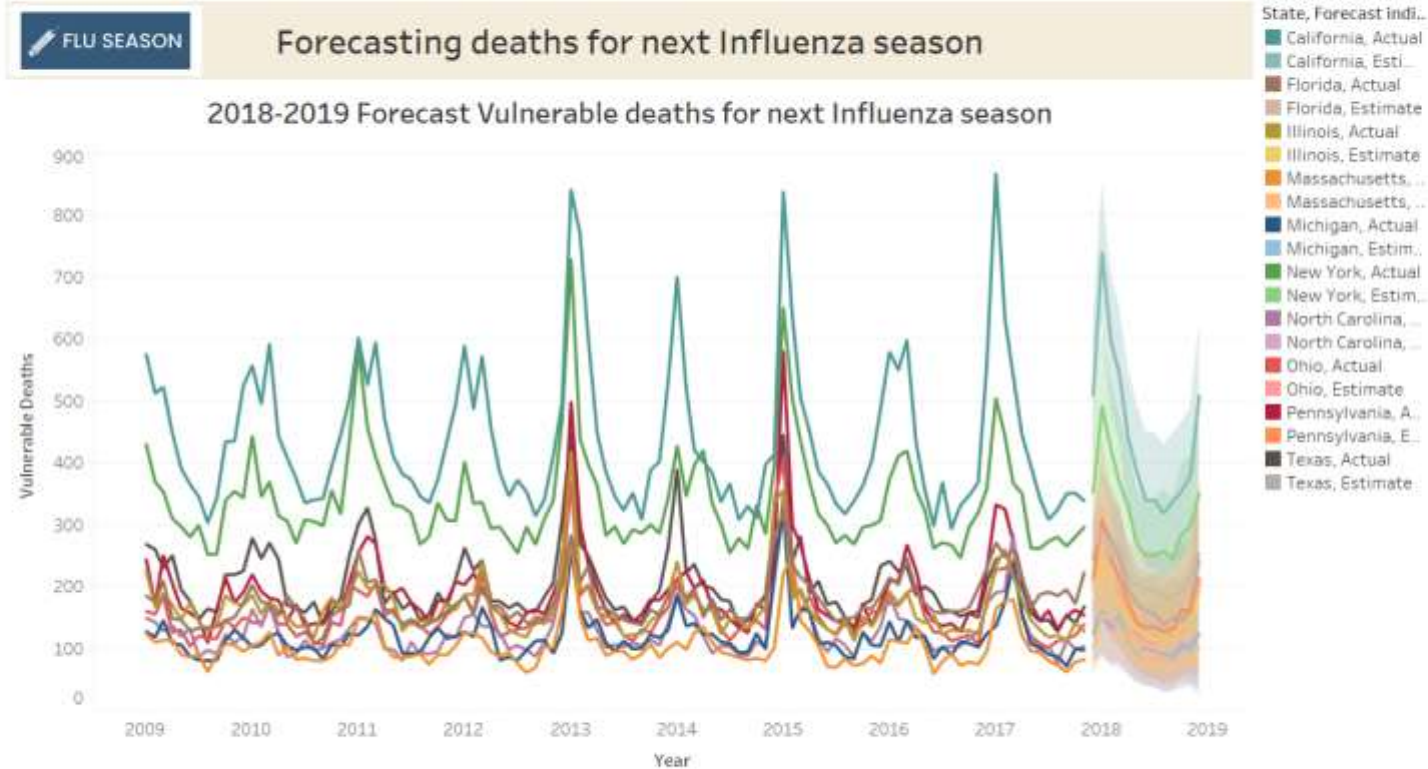


California and New York have the highest number of casualties who are aged above 65 years

The Top 10 states with the highest number of deaths doesn't change throughout 2009-..

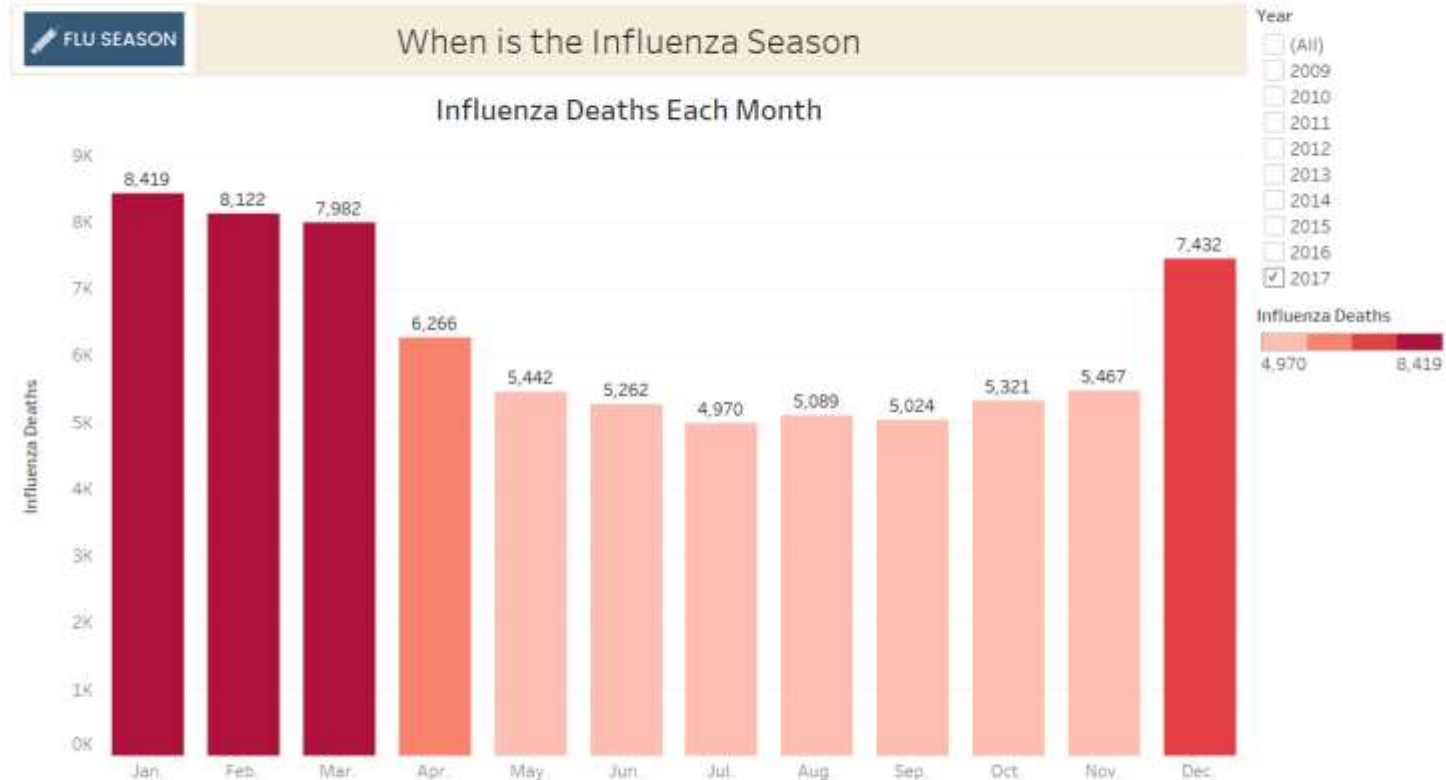


## STAFFING PLAN INFLUENZA SEASON



Forecasting was done for the states with the highest number of Influenza deaths to predict the outcome for the upcoming Influenza season. This data can be used as reference to get an idea of how the next Influenza season will look like which makes it easier for the staffing agency to get an idea on how to arrange the staffing needs accordingly for each state.

## STAFFING PLAN INFLUENZA SEASON



The flu season lasts from December to March. Flu activity starts from October where the death count starts increasing slightly and during December- March is when high number of staffing needs would be required throughout the country and then in April-May the flu season dies down steadily.

# WHAT'S NEXT

## STAFFING PLAN INFLUENZA SEASON



### STAFFING NEEDS AND CONCLUSION

#### CONCLUSION

New York and California are the states with the highest number of deaths of vulnerable people so they need additional staffing and should be monitored carefully, followed by the states Florida, Pennsylvania, Texas, Illinois, Ohio, North Carolina, Michigan and Massachusetts which are in the top 10 most affected states during the flu season so they also require slightly additional staffs and the remaining states require adequate amount of staffing.

During the flu season December- March all states need additional staffing and they might have to work overtime to save lives.

Year

- ☒ (All)
- ☒ 2009
- ☒ 2010
- ☒ 2011
- ☒ 2012
- ☒ 2013
- ☒ 2014
- ☒ 2015
- ☒ 2016
- ☒ 2017

Vulnerable

1,568 47,483

Vulnerable people deaths for each state



# ROCKBUSTER STEALTH ANALYSIS

ANALYST NAME

SOLOMON NITESH DEVANEYAN



## PROJECT OVERVIEW

Rockbuster Stealth LLC is a movie rental company that used to have stores around the world.

Facing stiff competition from streaming services such as Netflix and Amazon Prime, the Rockbuster Stealth management team is planning to use its existing movie licenses to launch an online video rental service in order to stay competitive.

The goal of this project is to help Rockbuster stealth become the leading streaming service all over the world by analyzing its top countries, cities and top customer details all around the world and determine how to improve streaming services around the globe effectively.

[Rockbuster Dataset](#)

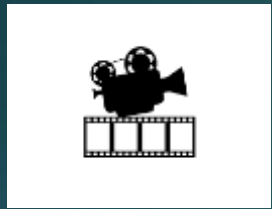
## DESCRIPTIVE STATISTICS

The table below gives a complete descriptive analysis for all the films in the Rockbuster database

	Average	Minimum	Maximum	Mode
Rental Duration (days)	5	3	7	6
Rental Rate (USD)	2.98	0.99	4.99	0.99
Length of film (minutes)	115.27	46	185	85
Replacement Cost (USD)	19.98	9.99	29.99	20.99



## ABOUT THE COMPANY



Number of  
films: 1000



Number of  
genres: 17



Average rental  
duration: 5 days



Average rental  
rate: 2.98 days



Countries: 109



Cities: 600



Average customer  
revenue: \$ 105

Rental services throughout  
the globe

## TOOLS USED

- SQL
- Microsoft Excel
- Tableau

# WHERE ARE OUR CUSTOMERS FROM ?

Our customers are mostly from India, China and United States.

Mexico, Brazil, Japan, Russian Federation, Philippines, Turkey and Indonesia also make the list.

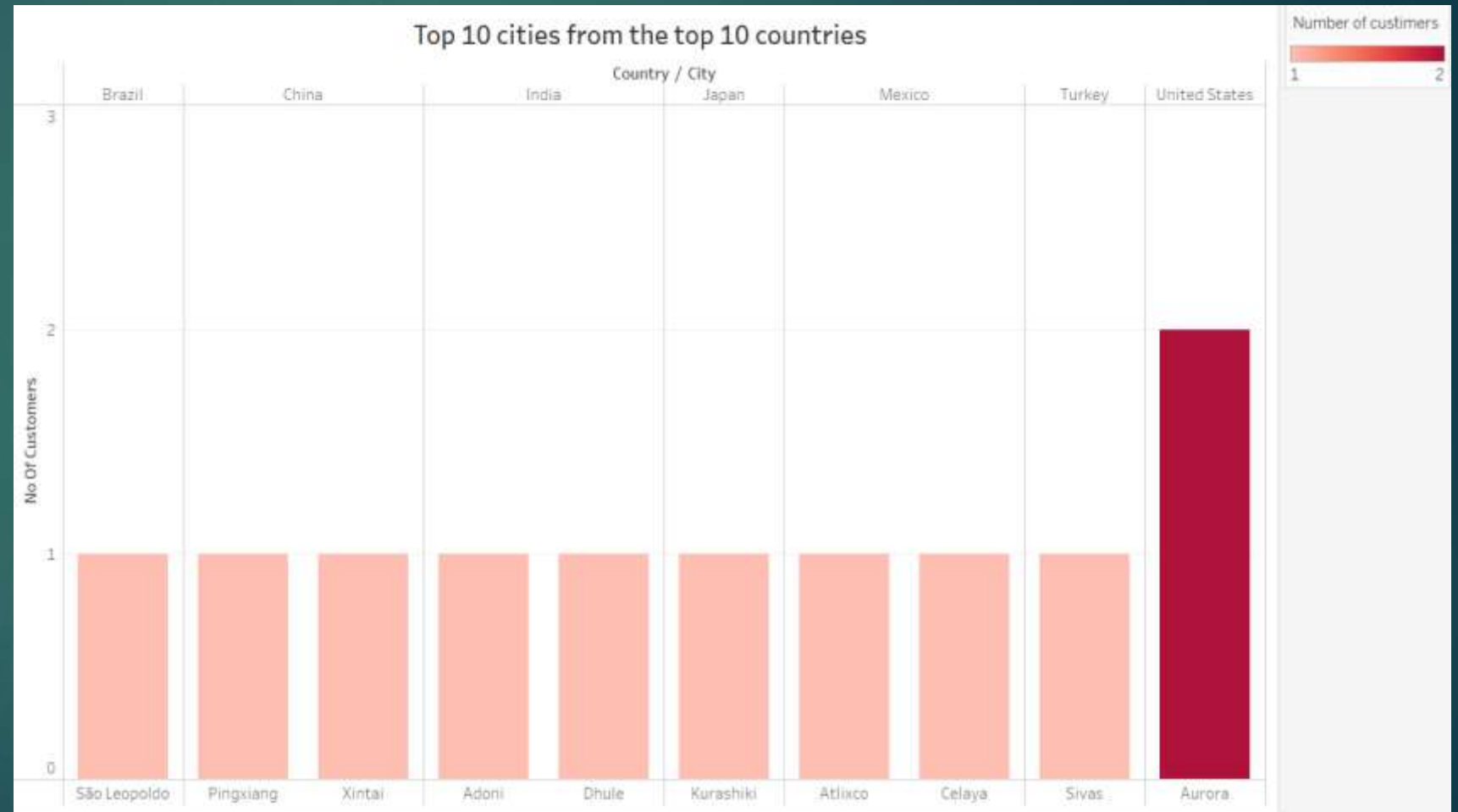
Our top 10 countries should have more staffs due to higher demand.



## IN WHICH CITIES DO THEY RESIDE ?

Aurora has the highest number of customers from the top 10 countries with 2 customers.

While the rest of the cities have 1 customer.



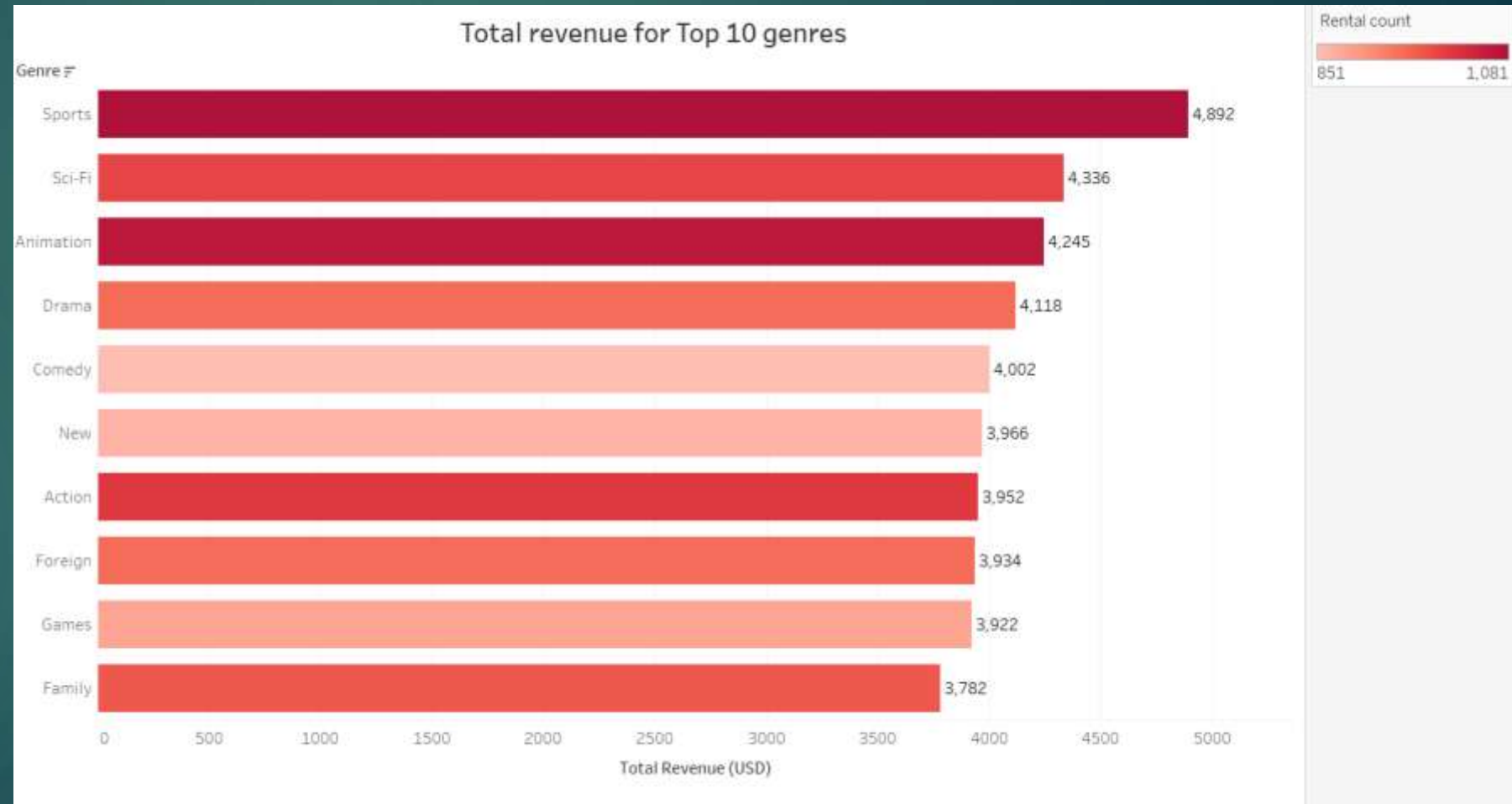
## WHO ARE OUR TOP 5 CUSTOMERS ?

Our Top 5 customers are from Mexico, India, United States and Turkey with Sara Perry from Mexico, Atlixco being our top customer from the top 10 countries and cities.



# WHICH GENRES BRING THE COMPANY HIGHEST REVENUE ?

The sports genre contributes the highest amount of revenue for Rockbuster stealth amounting to 4892 USD from 1081 customers all around the world.



## WHAT COMES NEXT ?



EXPAND THE ROCKBUSTER STREAMING SERVICES TO MORE COUNTRIES AND CITIES ALL AROUND THE WORLD



ADJUST THE BUDGET FOR LOCATIONS WITH LESS REVENUE



INCREASE THE RENTAL RATE FOR POPULAR GENRES AND EXPAND THE FILM CATALOGUE



SPECIAL BENEFITS FOR TOP CUSTOMERS WHICH WILL MOTIVATE OTHERS TO SPEND MORE MONEY





# INSTACART BASKET ANALYSIS

ANALYST NAME

SOLOMON NITESH DEVANEYAN

# OBJECTIVE AND OVERVIEW

Instacart is an online grocery store that operates through an app. Instacart is a well known app with excellent sales, but they want to uncover more information about their sales patterns. As an analyst my task is to perform an initial data and exploratory analysis of some of their data in order to derive insights on customers, products, days and hours in which there are more sales.

Instacart allows customers to shop at local grocery stores via a mobile app or their website, creating a virtual shopping cart which can be cashed out for delivery whenever you want

[mobile app](#)  
[Website](#)

[Customer data set](#)



# TOOLS USED

- Jupiter Notebook
- Pandas
- NumPy
- Seaborn
- Matplotlib
- SciPy

# ABOUT THE COMPANY



206209 users on  
Instacart



21 departments to  
order from

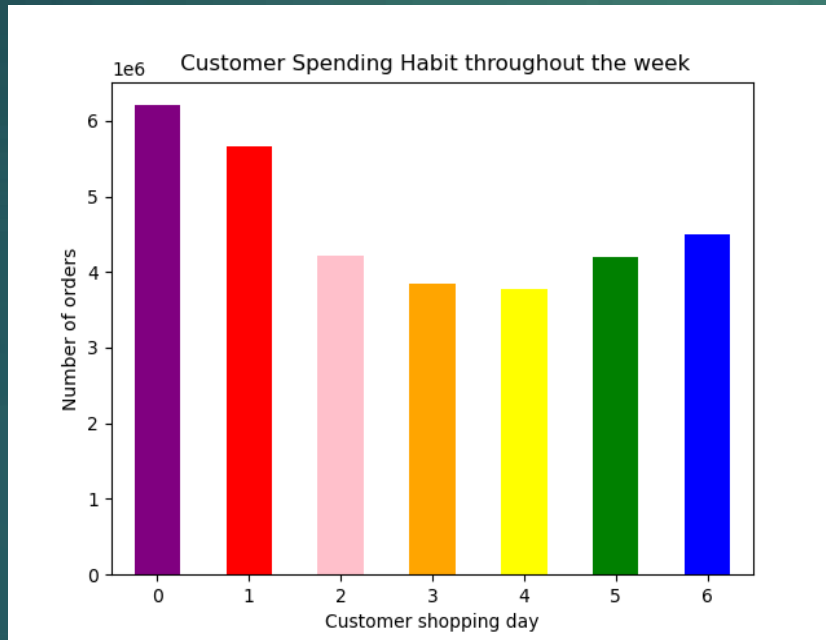


49520 products  
to order from



Data taken from  
50 states split  
into 4 regions

# BUSIEST DAYS

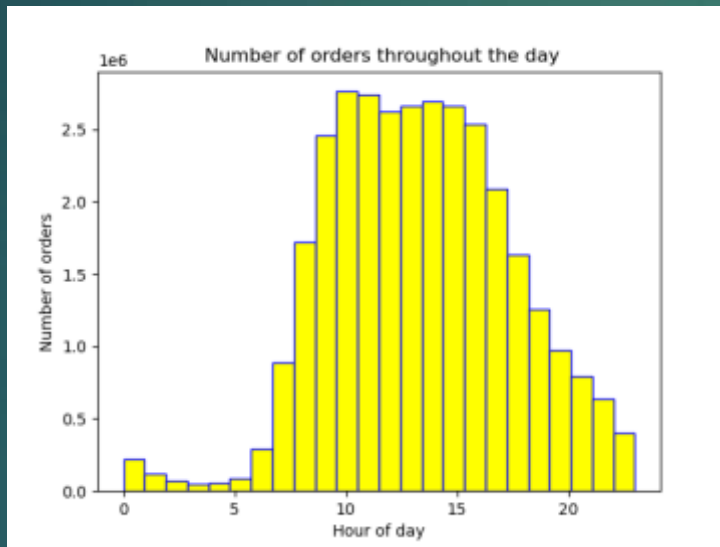


## FROM PROJECT BRIEF

- 0- Saturday
- 1- Sunday
- 2- Monday
- 3- Tuesday
- 4- Wednesday
- 4- Thursday
- 5- Friday

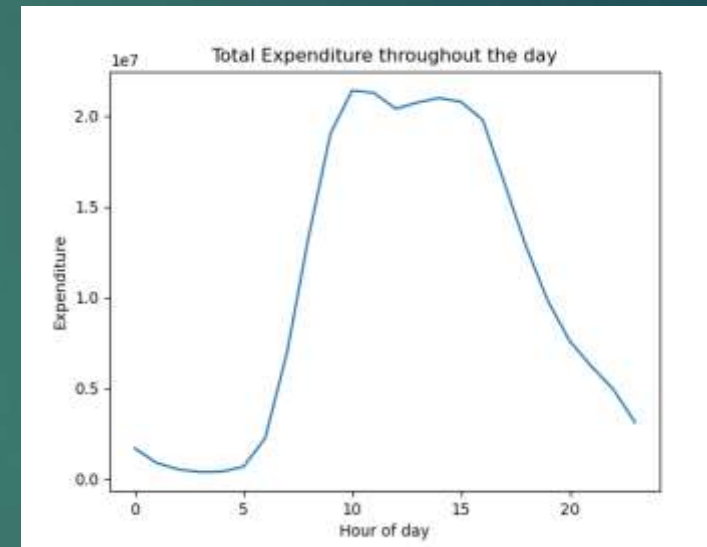
The busiest days are Saturday and Sunday  
Tuesday and Wednesday are the least busy

# BUSIEST HOURS



Most of the orders are made from 10 AM to 3 PM

From 11 PM to 6 AM less number of orders are made which is understandable since most of them would be sleeping



The revenue gained by the company is at peak during the busiest hours 10 AM-3PM which is understandable since higher number of products are being purchased

# LOYALTY TO INSTACART



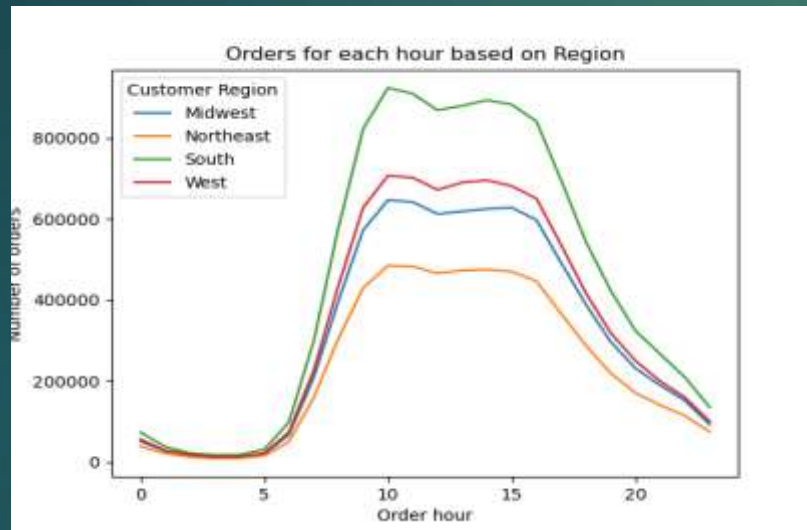
Regular customers with 10-40 orders are higher in number when compared to Loyal and New customers



Loyal customer > 40 orders  
Regular customer 10-40 orders  
New customer <10 orders



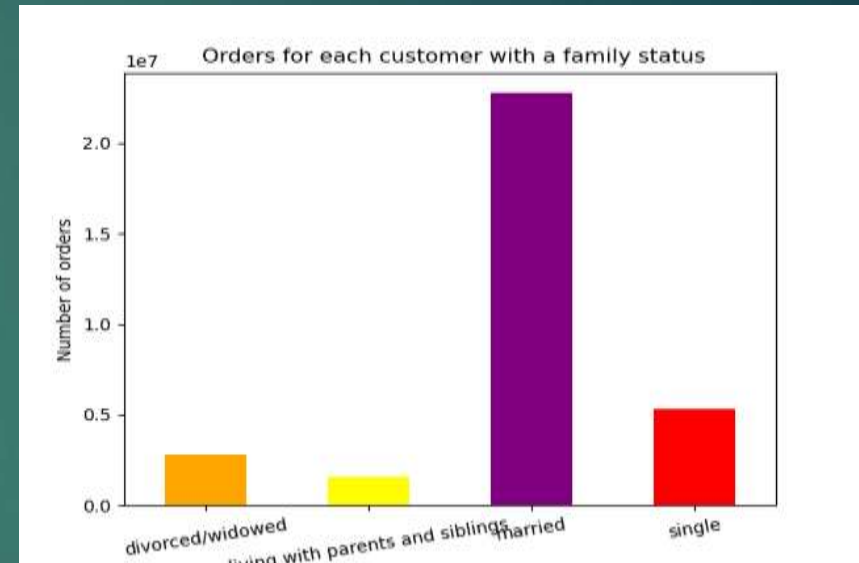
# POPULAR REGIONS



The Southern region of the United States have the highest number of users and orders from Instacart online grocery

Northeast region has the lowest number of orders so investments must be made for promotional campaigns so that other regions become just as popular as the southern region

# TYPE OF CUSTOMERS?



Married customers contributing to the highest number of orders and revenue to Instacart online grocery isn't shocking since they need to take care of their family needs

Plans which benefit Single and divorced customers need to be implemented to maximize sales

# WHAT'S NEXT?

New ideas to increase the number of orders and revenue gained by attracting new Single and Divorced customers and monitor the progress

Marketing the grocery site to other regions except South in the United States so that they bring in new customers to increase the number of orders and revenue

Create a special event during weekdays from 10AM-3PM (busiest hours) to increase sales

Rewards for loyal customers so that new customers become regular customers and regular customers become loyal customers

# GAME CO - ANALYSIS

DONE BY  
SOLOMON NITESH DEVANEYAN

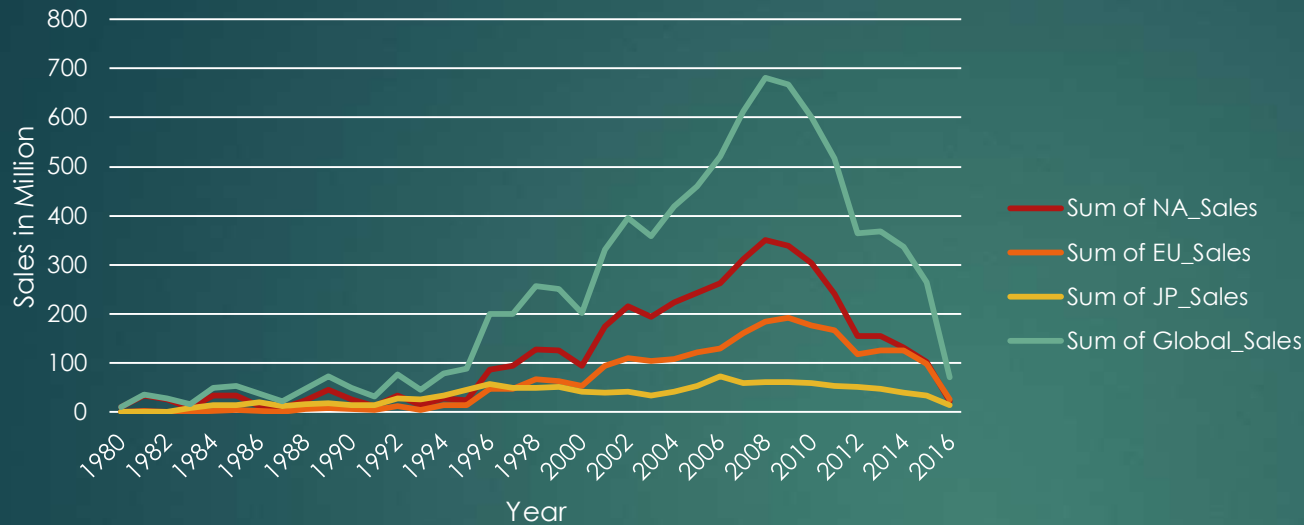


# OVERVIEW

- The video game Global sales reached its peak during 2008 and started decreasing from 2009 and when google play store was launched in 2012 there was a drastic decrease in video game sales and due to increase in popularity of mobile games the video game sales saw a rapid decline from 2012.
- North America had the highest cumulative sales throughout the years in every genre except role playing which was led by Japan with 352.3 Million sales. Europe had moderate sales throughout the years in all genres but didn't lead the sales for any genre. Since North America had the most sales in almost every genre its no surprise that it contributes the most towards Global sales with 49% of the sales, Europe contributes to 27% of the Global sales and Japan contributes to 15% of the Global sales.
- Japan showed the most fluctuation in terms of sales in 1980-1982 it had no sales and then from 1983 it had more sales than Europe and then suddenly from 1997 it contributed to the least amount of sales taking its cumulative value throughout the years lesser than Europe

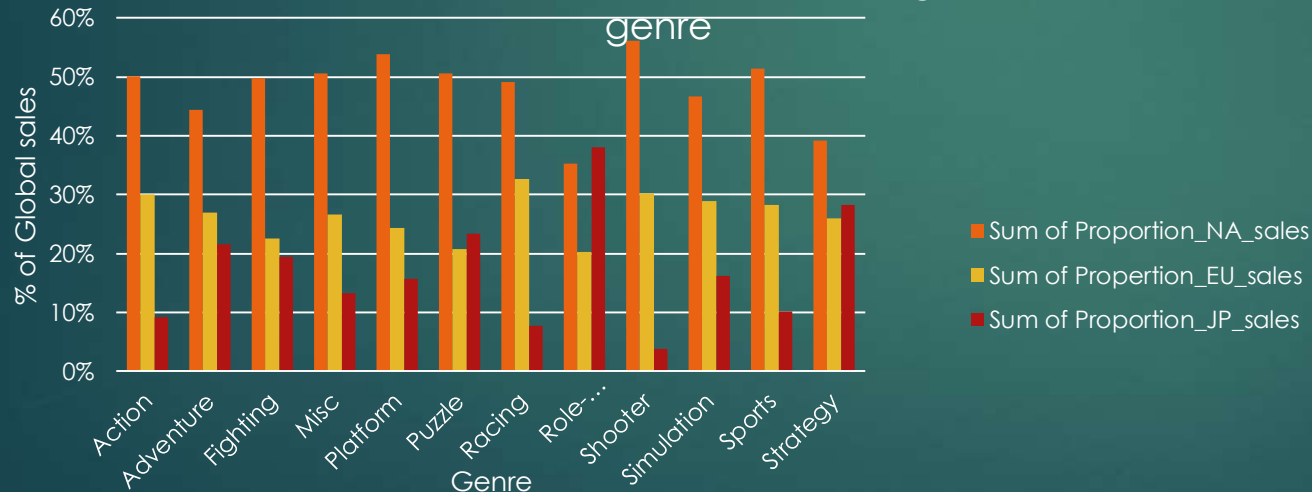


Sales in all regions and Global sales for each year

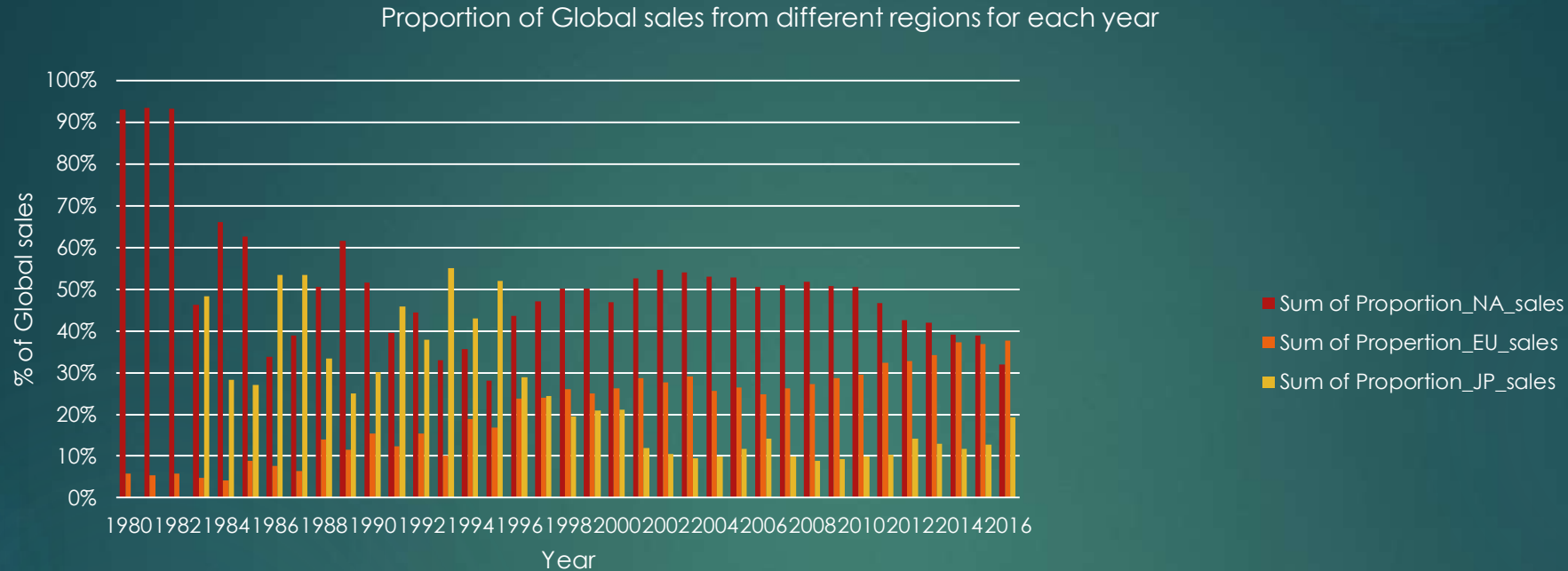


As you can see from the Year vs Sales in Million graph for various regions and Global, from 1980 to 1995 it was tough to point out which region contributed the most towards the Global sales since the values kept on fluctuating every year and there wasn't any clear winner in terms of sales. But from 1996 North America clearly contributes the most towards the Global sales. Similarly, from 2000 it was clear that Europe contributed the second most towards the Global sales meanwhile Japan contributed the least. Again from 2016 it isn't clear which region will dominate the sales in the future since the sales are pretty much the same with little difference in 2016 across various regions. But it is expected for the sales drop even more across all regions from 2017 unless GameCo produces some new strategies to sell their games to the masses.

Proportion of Global sales from different regions for each genre







As you can see from the Year vs % of Global sales graph for various regions North America sales saw a decrease in % of sales from 2009 to 2016 whereas the % of sales of Europe and Japan increased during this period. So, its most likely for North America sales to dip even more during 2017 in order to avoid that GameCo needs to promote their games more in the North American market as well as in Japan and Europe since even though the % of sales increased the actual sales in Europe and Japan is most likely to drop just like in previous years. North America dominated the sales for most of the video game genres. Japan dominated the video game sales for role-playing genre but lacked sales in other genres, Europe and Japan fell short in sales compared to North America, so GameCo needs to make sure their games reach more consumers in Japan and Europe in order to do that they can add Japanese and European languages in their in game settings for all their games since many aren't familiar with English which could be a key factor for the lack of sales and hire a popular celebrity to sponsor their games in Japan and Europe so that the games get more recognition throughout the country.



## WHAT'S NEXT

- Some actions GameCo needs to take to make sure the sales are high for each region are to note down in which genre each region lacks the most in terms of sales and should invest in promotional campaigns for that genre of games in that respective region.
- They can increase the sales in Japan by adding Japanese language in their in-game settings for their games this will help in the increase of sales in Japan, similarly for Europe they can add some European languages in their in-game settings.
- They need to reduce the shipping cost for the games to sell more since games which aren't available in store in that region is expected to have low sales.





# PIG E BANK ANALYSIS

ANALYST NAME

SOLOMON NITESH DEVANEYAN

PIG E BANK CLIENT DATASET

## OVERVIEW

As a data analyst for a well-known global bank my job is to provide analytical support to its anti-money-laundering compliance department. This will involve a variety of data-related projects that help the bank assess client risk and transaction risk

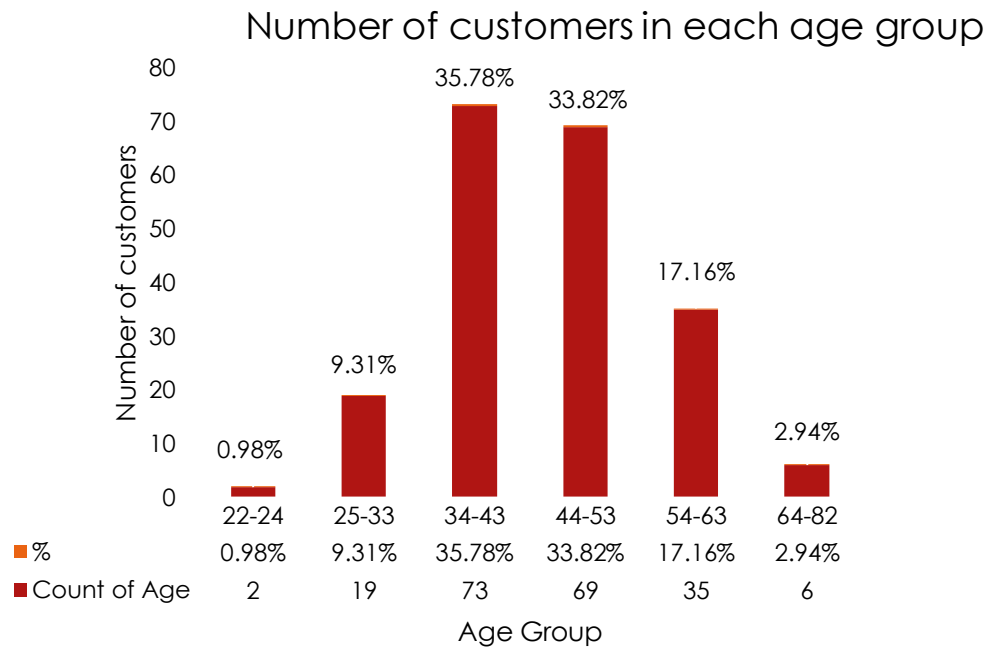
## OBJECTIVE

- Identify the top risk factors that contribute to client loss.
- Create a decision tree to predict client churn probability based on risk factors.

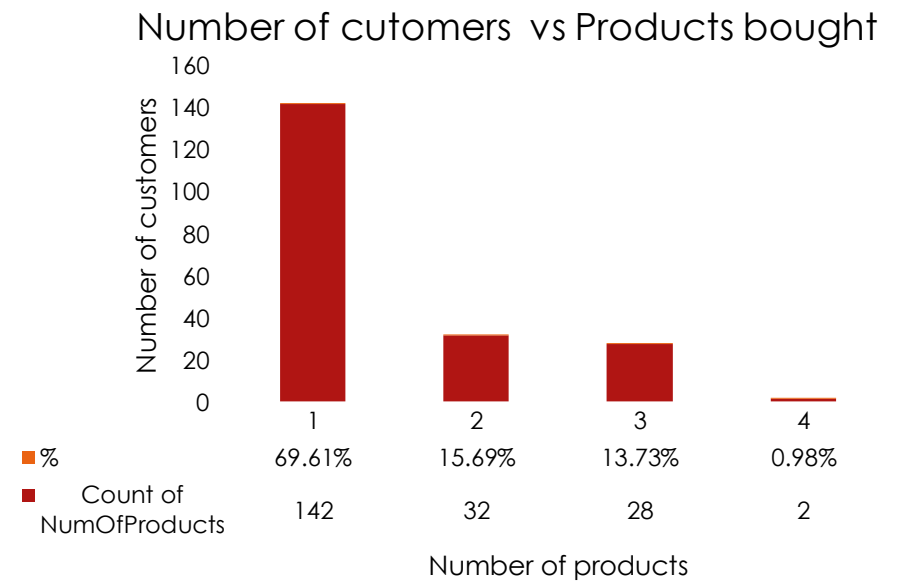
## TOOLS USED

- Microsoft Excel



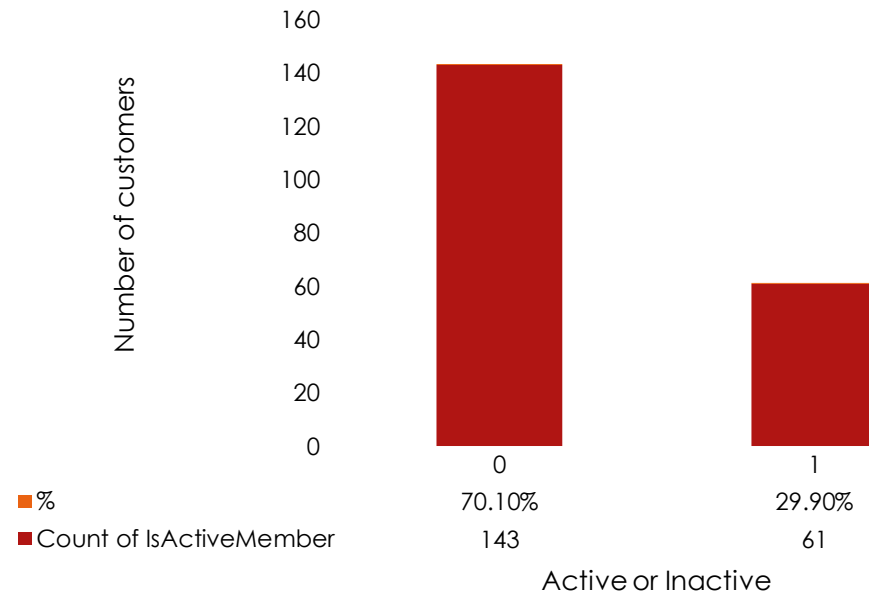


Customers aged 34-53 are the ones who are majority in number from previous customers who left



69.61 % who have bought only one product are most likely to leave

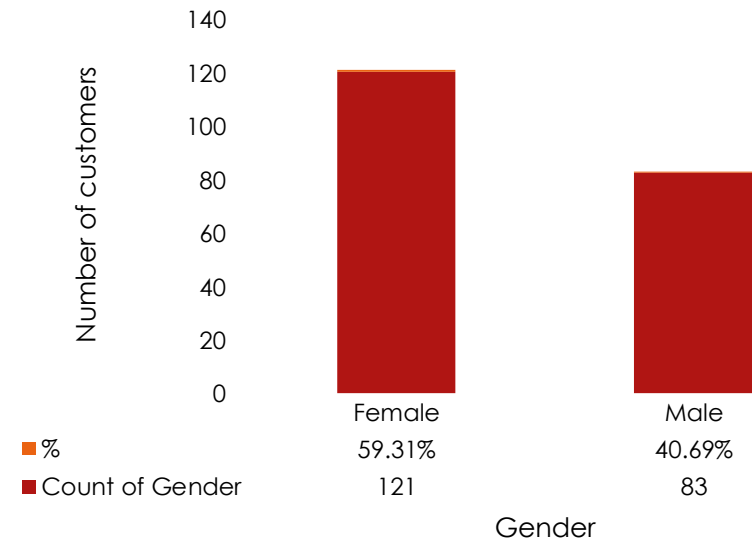
### Active and Inactive customers



0- Inactive  
1- Active

70.10 % of the previous customers  
who left were inactive

### Male and female customers



Around 60 % of the female  
customers are most likely to  
leave

# PROBABILITY OF CUSTOMER LEAVING

→ YES

→ NO

ACTIVE  
CUSTOMER

ONE PRODUCT

TWO OR MORE  
PRODUCTS

34-53 YEARS

34-53 YEARS

34-53 YEARS

34-53 YEARS

FEMALE

FEMALE

FEMALE

FEMALE

FEMALE

FEMALE

FEMALE

FEMALE



PROBABILITY SCALE

# WHAT'S NEXT?

Current customer		
Row Labels	Count of Age	%
18-23	20	2.54%
24-33	254	32.27%
34-43	364	46.25%
44-53	94	11.94%
54-63	31	3.94%
64-73	18	2.29%
74-82	6	0.76%
Grand Total	787	100.00%

Current customer		
Row Labels	Count of IsActiveMember	%
0	345	43.84%
1	442	56.16%
Grand Total	787	100.00%

Current customer		
Row Labels	Count of Gender	%
Female	341	43.33%
Male	446	56.67%
Grand Total	787	100.00%

Current customer		
Row Labels	Count of NumOfProducts	%
1	368	46.76%
2	414	52.60%
3	5	0.64%
Grand Total	787	100.00%

Compare the current customers to the analysis held on previous customers to check if there is a higher probability of customers staying with the bank





# ADIDAS SALES ANALYSIS

ANALYST NAME  
SOLOMON NITESH DEVANEYAN

[GITHUB REPOSITORY](#)

[ADIDAS SALES DATASET](#)



## PROJECT OVERVIEW

Adidas is a famous branded footwear and apparel brand and we will look at how the sales, revenue and profit of the brand varies among various states and cities in the United States

### GOAL

To find the revenue and profit gained by Adidas through sales to see if there is any correlation between these two variables. In this project we will be focusing on the states from the United States to see which states and cities brings in the most revenue and profit, which product, sales method and region in US contributes the most to the company's revenue and profit, Top 10 states for business.

### Profit

2,292,727  
10,000,000  
20,000,000  
29,137,233

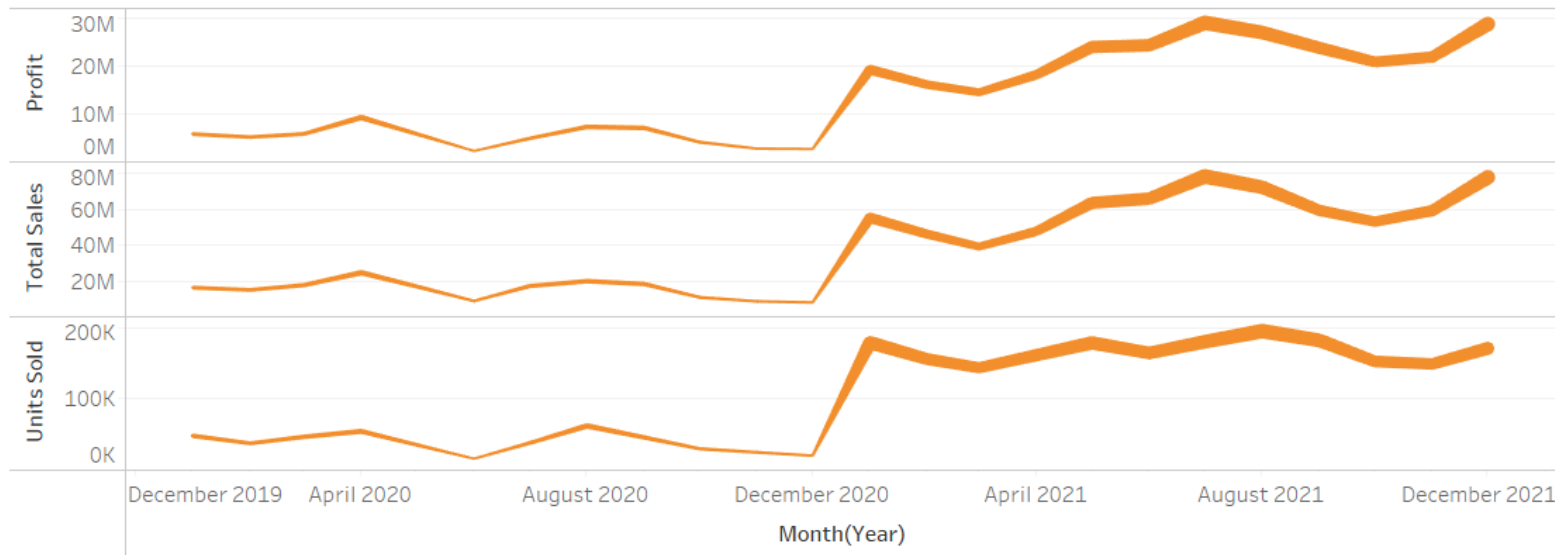
### Total Sales

8,026,527  
20,000,000  
40,000,000  
60,000,000  
78,334,681

### Units Sold

16,269  
50,000  
100,000  
150,000  
195,414

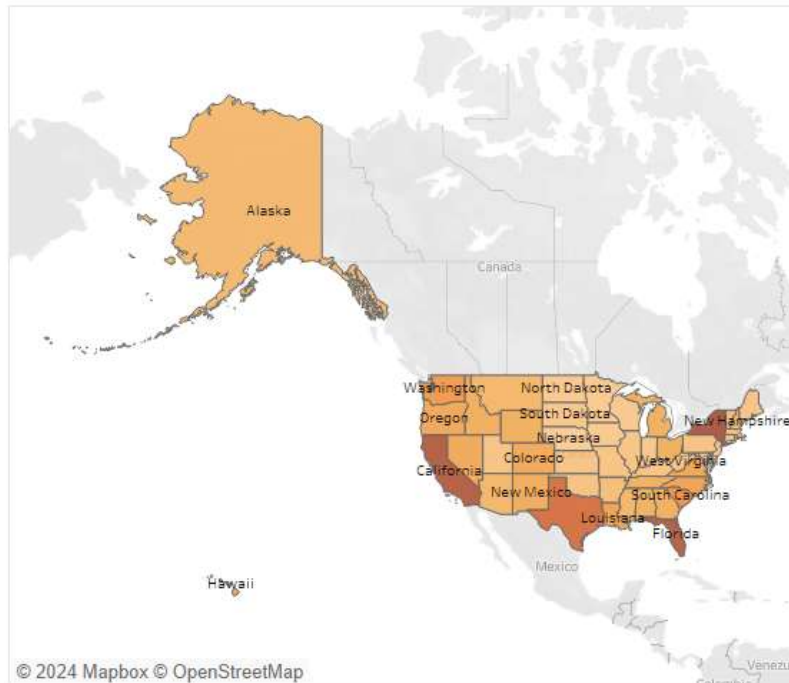
Time series data for the Profit, Revenue and Units sold in United States



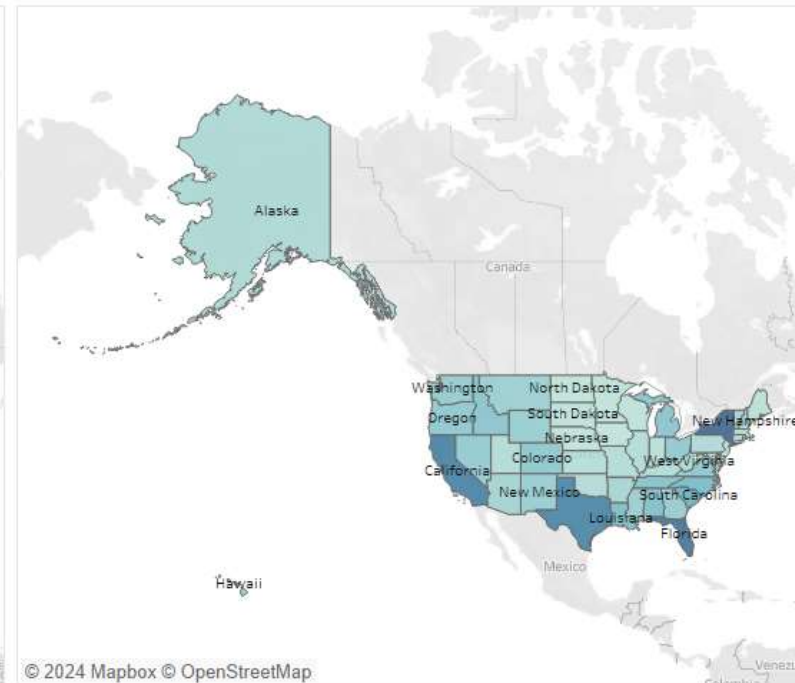


## State- Profit and Revenue

Revenue from Adidas product sales in each state in Unites States



Profit from Adidas product sales in each state in Unites States



Total Sales  
6M 64M

Profit  
2M 23M

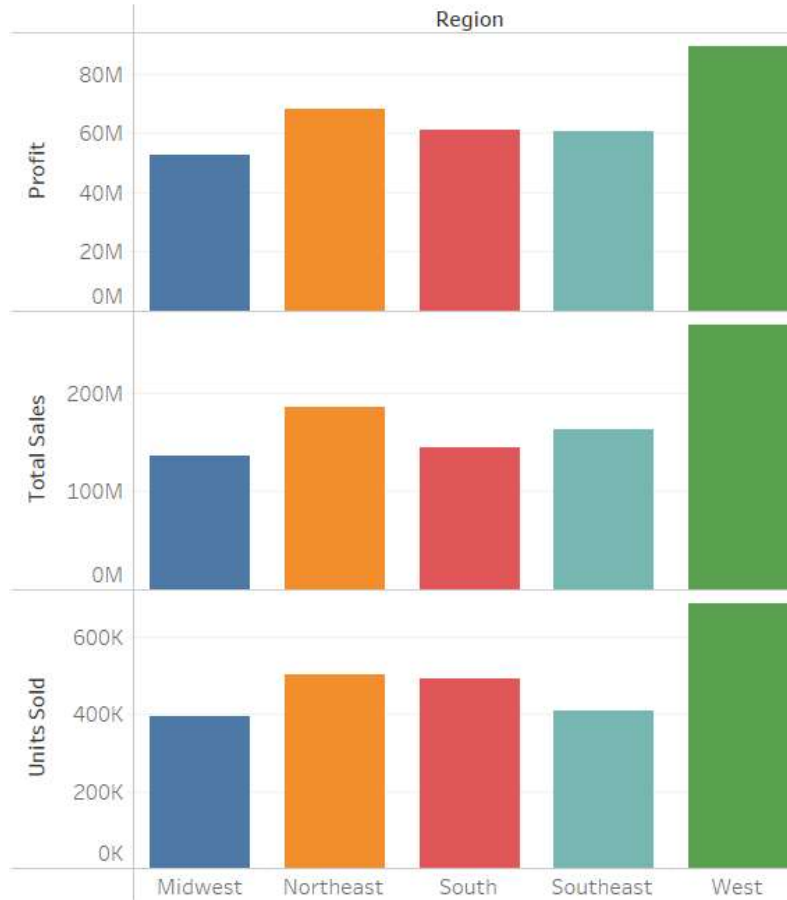
New York, California, Florida and Texas are represented in darker shades because they contribute higher revenue and Profit to Adidas in the United States

New York is the most valuable state for business with a total revenue of 64 Million USD and a profit of 23 Million USD



## Which region has higher contribution for the business?

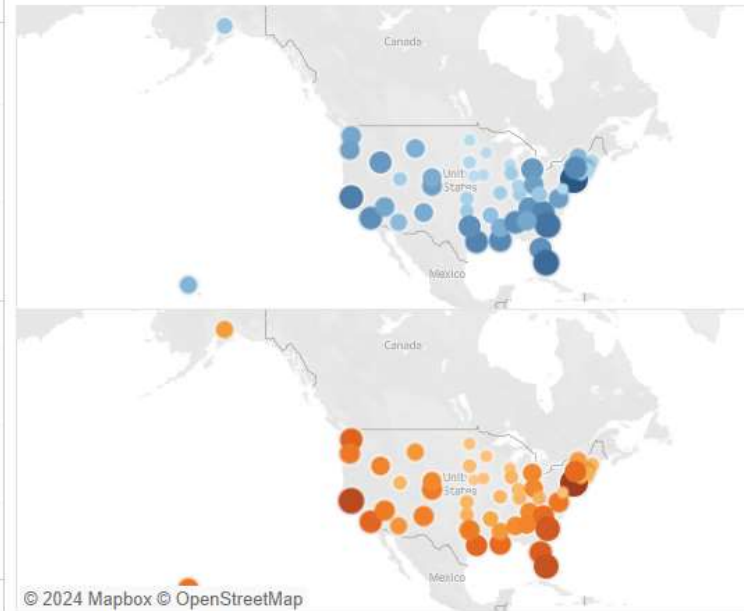
### Profit, Revenue and Units Sold for each region in the United States



The Western region has the highest number of products sold which gives them the highest revenue and profit gained which isn't surprising since Units Sold, Revenue and Profit have a strong positive correlation

New York, Miami, Charleston, San Francisco and Houston are the top 5 cities which contribute the highest revenue and profit for the business

### Profit and Revenue for each City



Region  
Midwest  
Northeast  
South  
Southeast  
West

Profit  
2M 14M

Total Sales  
6M 40M

Total Sales  
5,929,038  
20,000,000  
30,000,000  
39,801,235

Profit  
2,439,478  
5,000,000  
10,000,000  
13,899,973



## Most profitable product and sales method used

### Product profitability in each state



New York contributed the highest profit for Men's street and athletic footwear

California contributed the highest profit for Men's apparel and Women's street footwear

Florida contributed the highest profit for Women's apparel

Texas contributed the highest profit for Women's athletic footwear

- State
- Alabama
  - Alaska
  - Arizona
  - Arkansas
  - California
  - Colorado
  - Connecticut
  - Delaware
  - Florida
  - Georgia
  - Hawaii
  - Idaho
  - Illinois
  - Indiana
  - Iowa
  - Kansas
  - Kentucky
  - Louisiana
  - Maine
  - Maryland
  - Massachuset..
  - Michigan
  - Minnesota
  - Mississippi
  - Missouri
  - Montana
  - Nebraska
  - Nevada
  - New Hampsh..
  - New Jersey
  - New Mexico
  - New York
  - North Carolina
  - North Dakota
- Sales Method
- In-store
  - Online
  - Outlet

### Profit, Revenue and Units Sold for each sales method



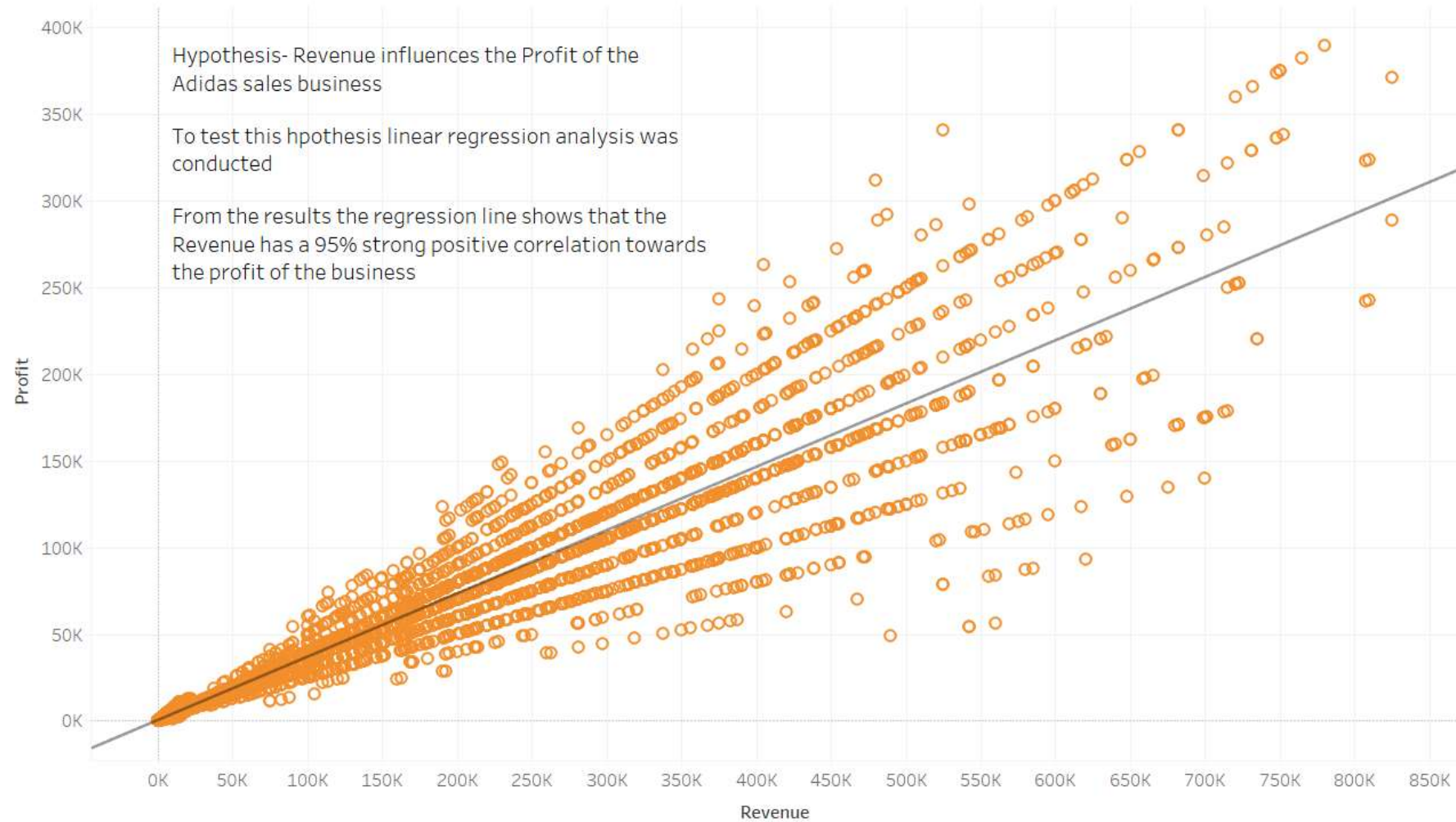
Online transaction had the highest percentage of products sold but the profit gained by the business was higher for in-store purchases

This is because online retailers offer discounts and coupons which brings the revenue and profit gained by the business a bit lower





## Regression Analysis

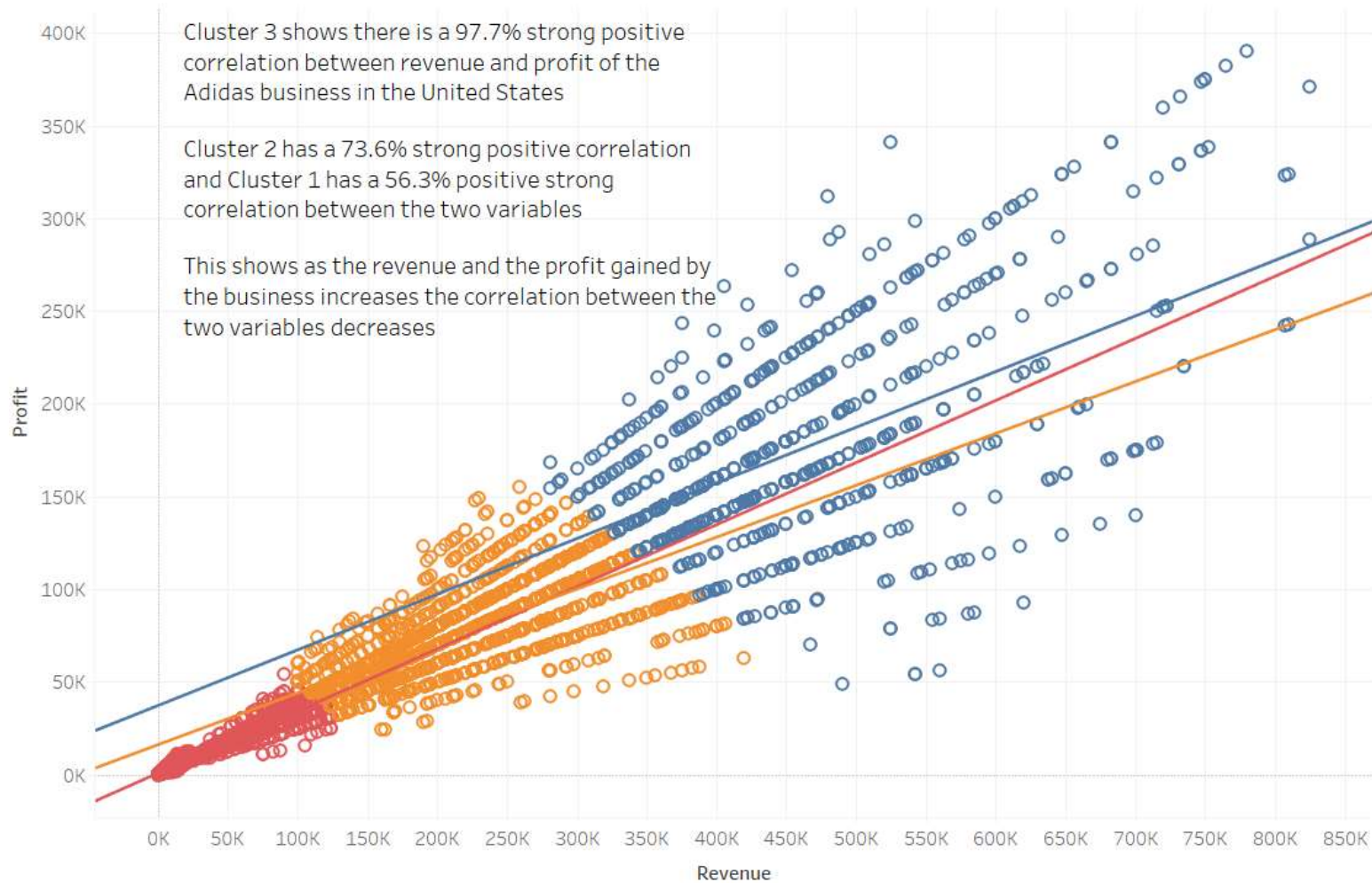






## Cluster Analysis

Clusters  
Cluster 1  
Cluster 2  
Cluster 3

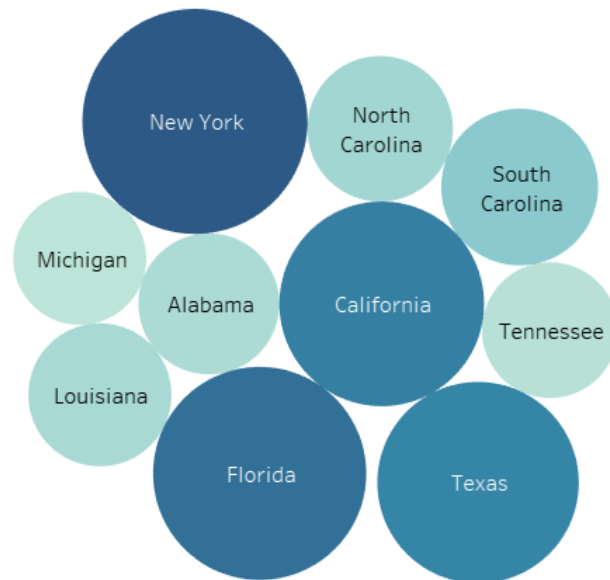




## Conclusion and Final Recommendations

Profit  
8M 23M

### Top 10 States



### CONCLUSION

The states New York, Florida, Texas, California, South Carolina, North Carolina, Tennessee, Louisiana, Alabama, and Michigan are the top 10 states with the highest profit from Adidas product sales

There is a strong positive correlation between Revenue and Profit of the business but as the value of revenue and profit increases the weaker their correlation

### RECOMMENDATIONS

Open new stores in the most populated cities from each state since in-store purchases bring in higher revenue and profit to the business

Promotional campaigns for states and regions with lesser products sold which helps in increasing the revenue and profit gained equally throughout the country

Promoting Men and Women adidas products further in the country and launching new products which helps adidas to achieve higher revenue and profit

# NEXT PROJECT?

