Ambika Timilsena's Data Analytics Portfolio

2023

About Me

Hi, I am Ambika Timilsena!

An Ex-Credit Analyst transitioning into the role of a Data Analyst. As a credit analyst I made loan recommendations by analyzing the financial and business strength of customers. It gave me the opportunity to find any unusual patterns in the financial data of customers and communicate the same with management. Now, I am transitioning into the data analyst role as I always wanted to dive deeper for a more comprehensive understanding of large-scale data and the decisions derived from these data. I want to apply my knowledge and skills to transform complex data into insightful visualizations, make data-driven decisions and communicate actionable insights to stakeholders that could impact the company and its decision-making processes.

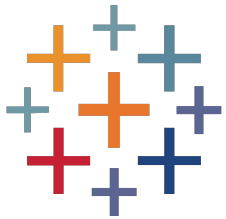
Soft Skills:

- Critical Thinking
- Business Acumen
- Story-Telling with Data
- Data Driven Research

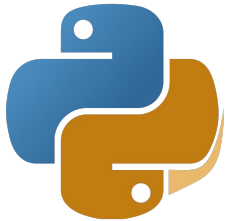
Skillset - Tech Stack

Excel

Powerpoint



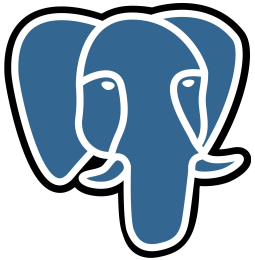
Tableau



Python

Numpy

Anaconda



PostgreSQL

Jupyter notebook

Db Visualization

Projects

Project 5	**Airbnb Berlin**	Analyzing the variables affecting price of the Airbnb Listing
Project 4	**Instacart**	Marketing strategy for an online grocery store
Project 3	**Rockbuster Stealth**	Answering business questions for an online video rental company
Project 2	**Influenza Season**	Preparing for flu season in the U.S.
Project 1	**GameCo**	Analyze global video game sales

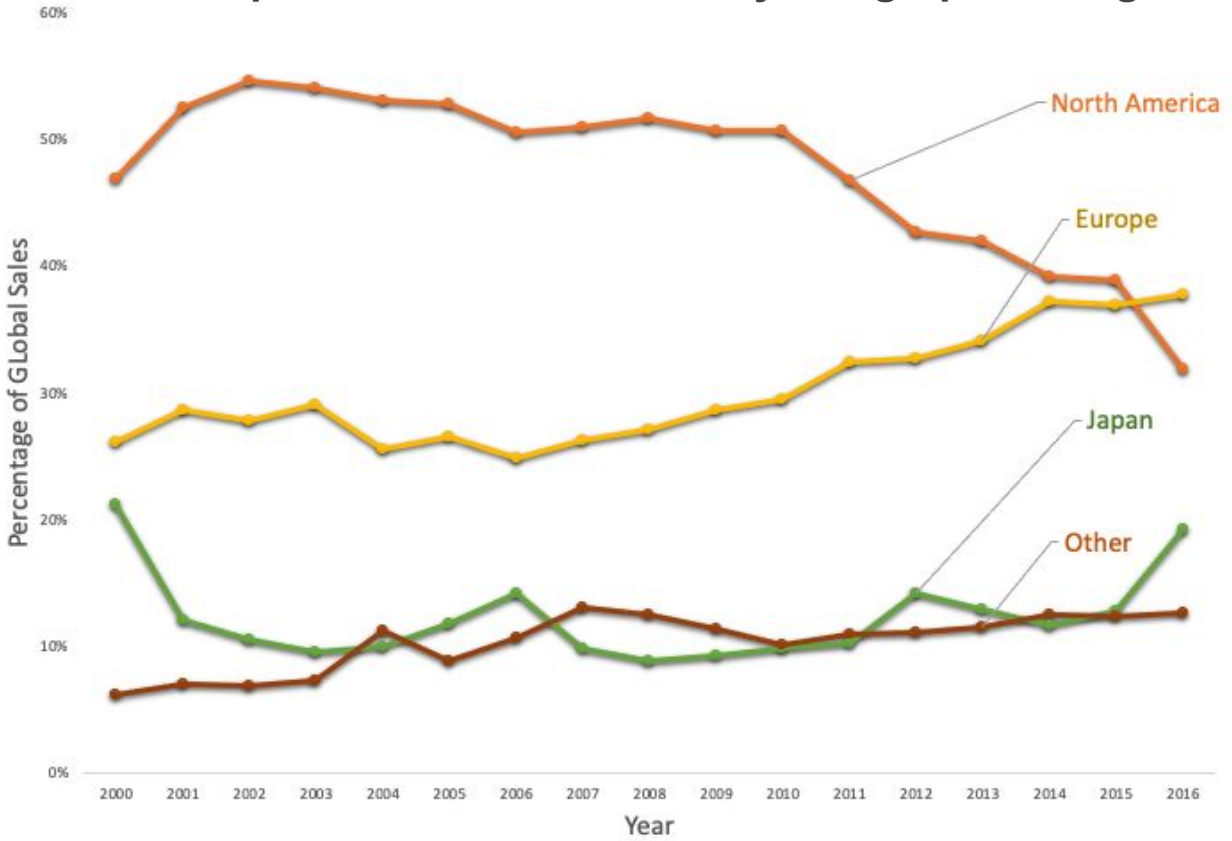
01

GameCo

Objectives:	Tools:	Skills:	Resources:
Perform a descriptive analysis on global video game sales to inform the development of new video games	Excel Powerpoint	Descriptive analysis, Grouping data and Summarizing data	Video Game Sales (Source: VGChartz)

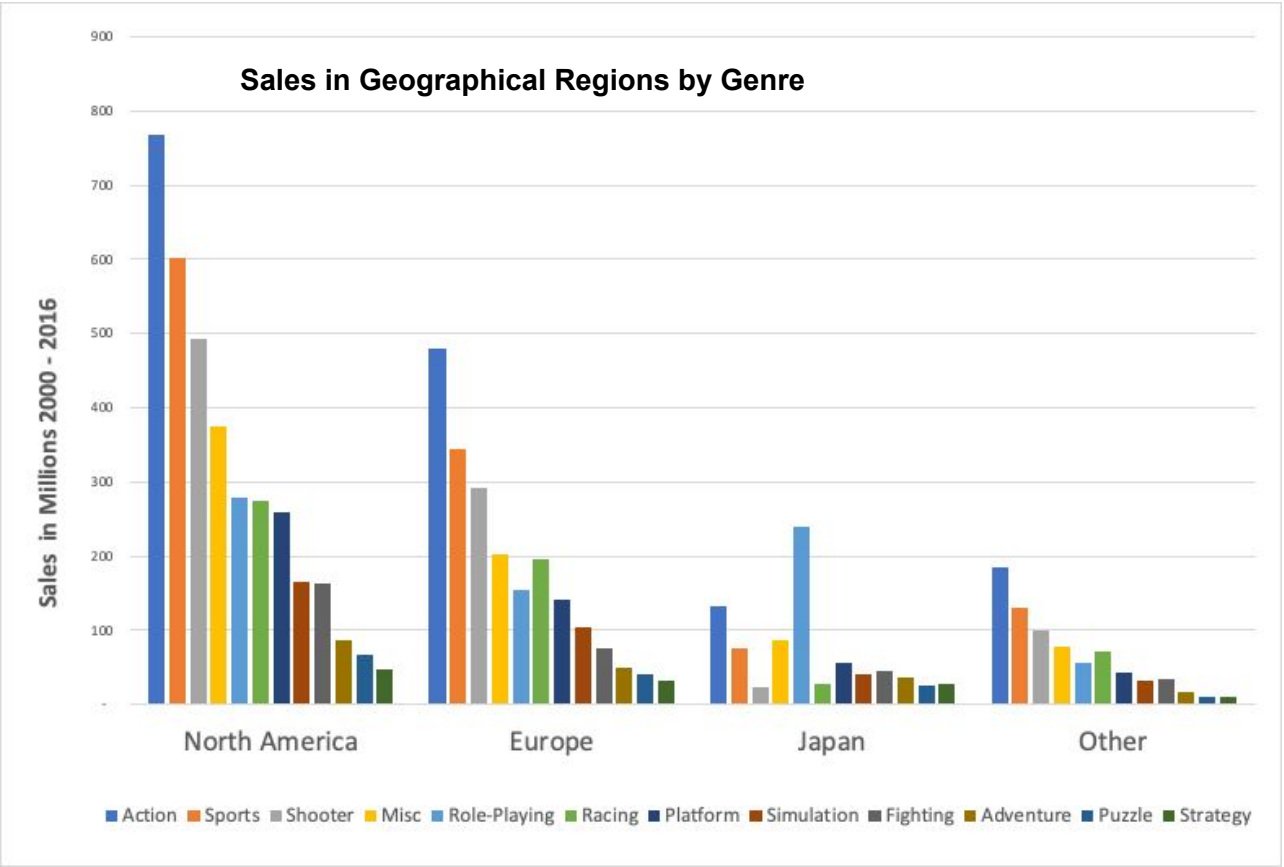
Key Insights

Proportion of Global Sales by Geographical regions



- **Europe** gains market leadership in 2016 by gaining 38% of global sales.
- Sales proportion of **North America** has decreased from **47% to 32%** from 2000 to 2016.

Key Insights



69%
Revenue

Role-playing & Action
Japan

80%
Revenue

Action, **Sports** and **Shooter**
North America and **Europe.**

Results

Recommendation

- Redistribution of marketing Budget by **geography.**
- Emphasize on popular **genre and platforms** while allocating marketing budgets.

Visualizations

Complete visualizations for the project can be found **here.**

Deliverables

PowerPoint Presentations

A more **in-depth analysis** and project reflection can be found **here**

Challenges

Data cleaning, missing values, formatting and standardizing the dataset.

Lack of access to current data.

02 Influenza Season

Objectives:	Tools:	Skills:	Resources:
Perform a predictive analysis using historical flu data to examine trends and seasonality of influenza in USA to assist medical staffing agency with the planning and deployment of additional staff to support influenza season.	Excel Tableau	Translating business requirements, Data cleaning, Data integration, Data transformation, Statistical hypothesis testing, Visual analysis, Forecasting, Storytelling in Tableau	Data Set

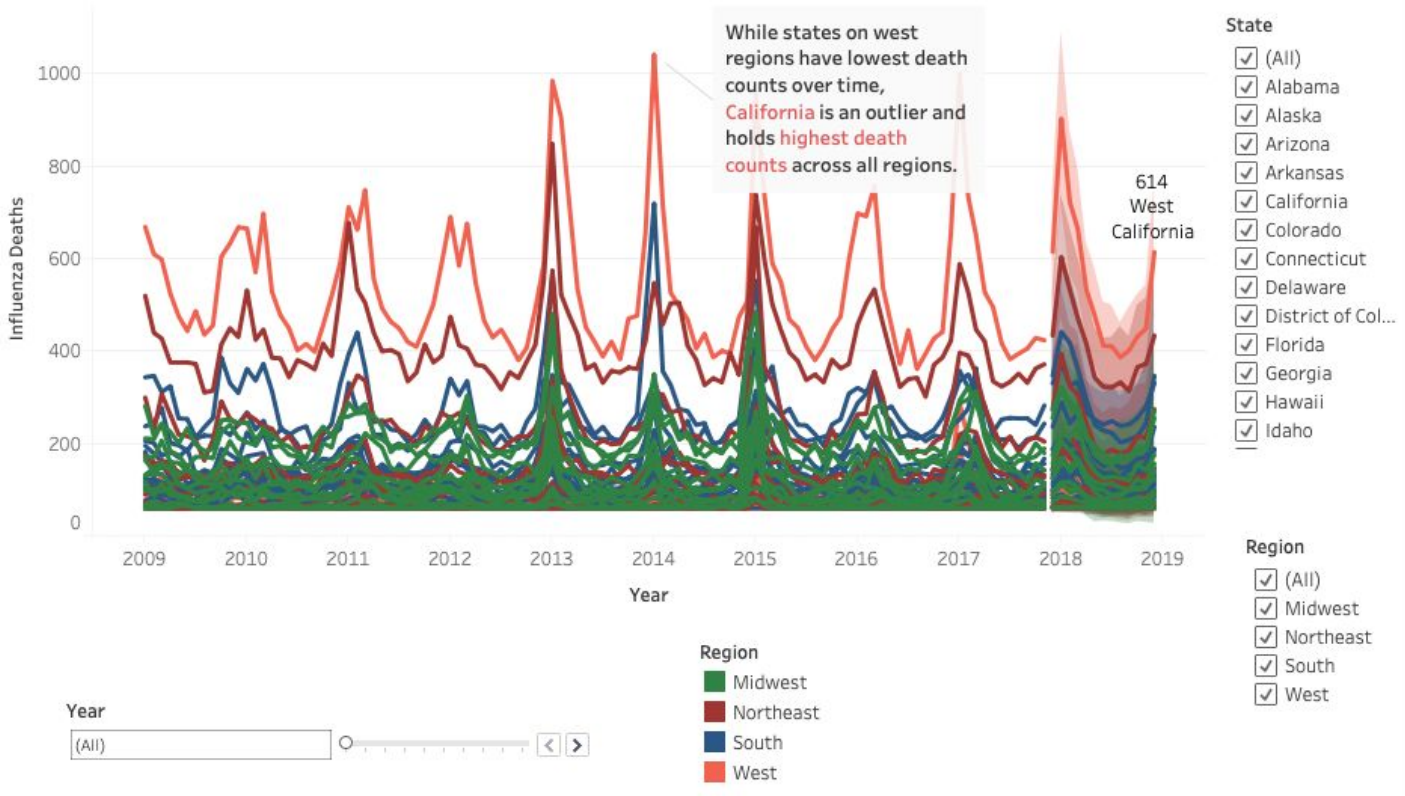
Key Insights

January
Highest Deaths

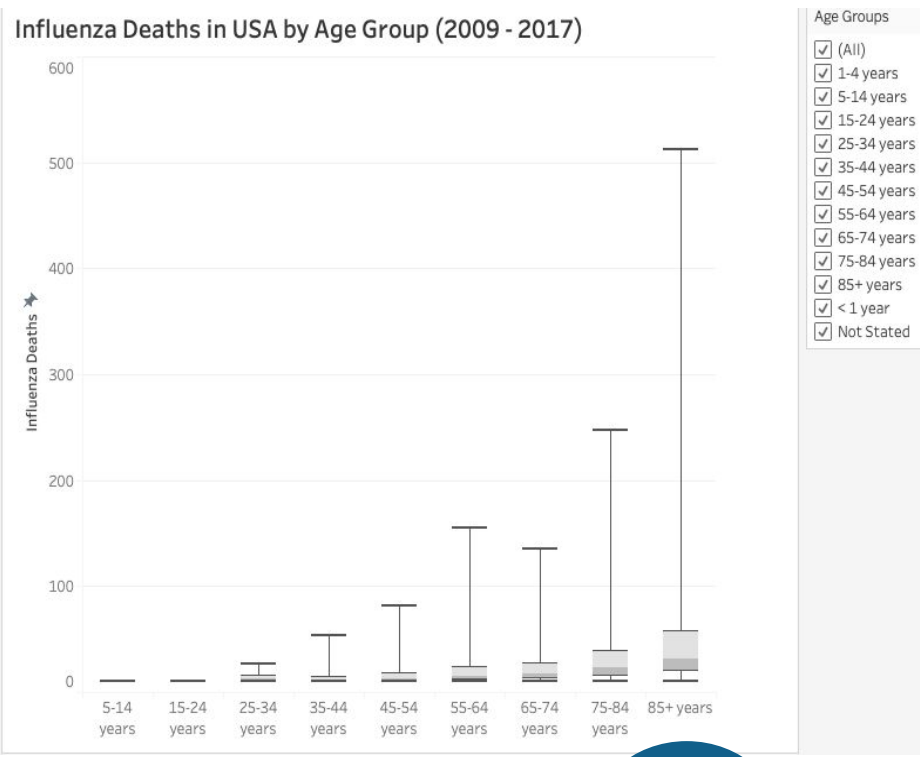
Highest Death Counts

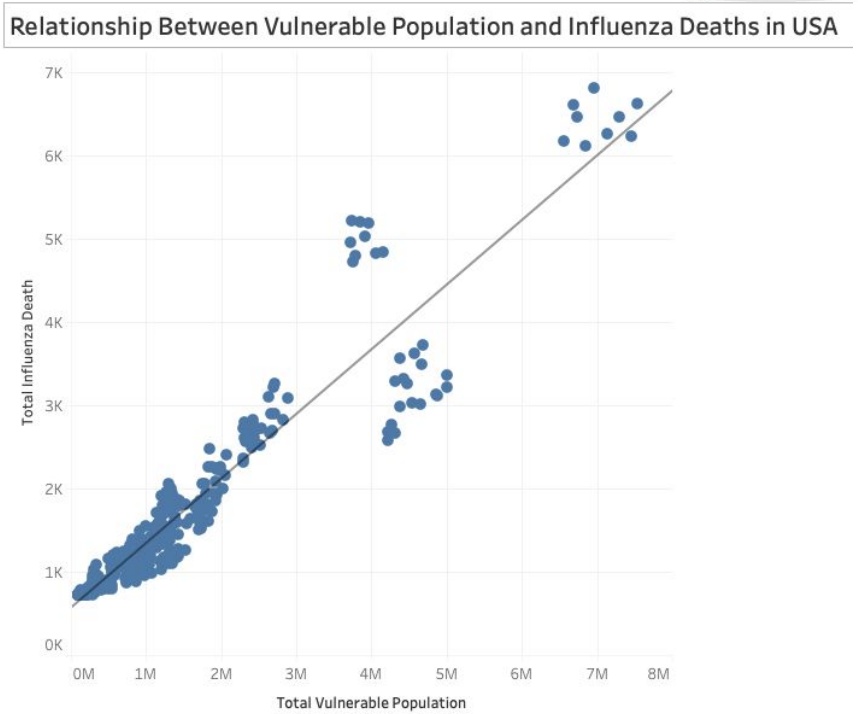
California, New York, Texas, Florida & Pennsylvania

Influenza Deaths in USA from 2009 - 2017 and Forecast for 2018



Key Insights





<5 and > 65 years **Vulnerable Population** **Highest Death**

Vulnerable Populations **Influenza Death** **Strong +ve correlation**

Results

Recommendation

- Focus on states with a higher number of vulnerable population.
- Allocate additional staff proportionately according to the states' vulnerable populations

Visualizations

Complete visualizations for the project can be found **here.**

Deliverables

Interim Report

Interactive Tableau Dashboard

Video Presentation

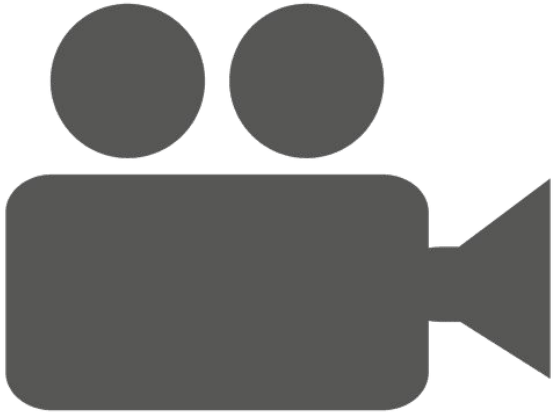
Challenges

Access to limited data.

A high proportion of suppressed data for death due to privacy reasons could skew my results.

03 Rockbuster Stealth

Objectives:	Tools:	Skills:	Resources:
Perform a strategic analysis of movie and rental data for the business intelligence department to assist in strategy development for the launch of an online video rental service in order to stay competitive in the industry.	PostgreSQL Tableau Powerpoint	Relational databases, SQL, Database querying, Filtering, Cleaning and summarizing, Joining tables, Subqueries, Common table expressions, Data Dictionary, ERD	Data Set



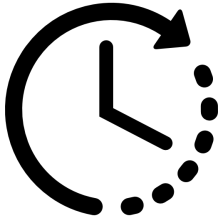
Key Insights

Most Profitable Genre

- Sports
- Sci-Fi
- Animation

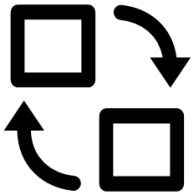
1000
Films for rent

599
Total Customers



5 Days
Avg. rental time

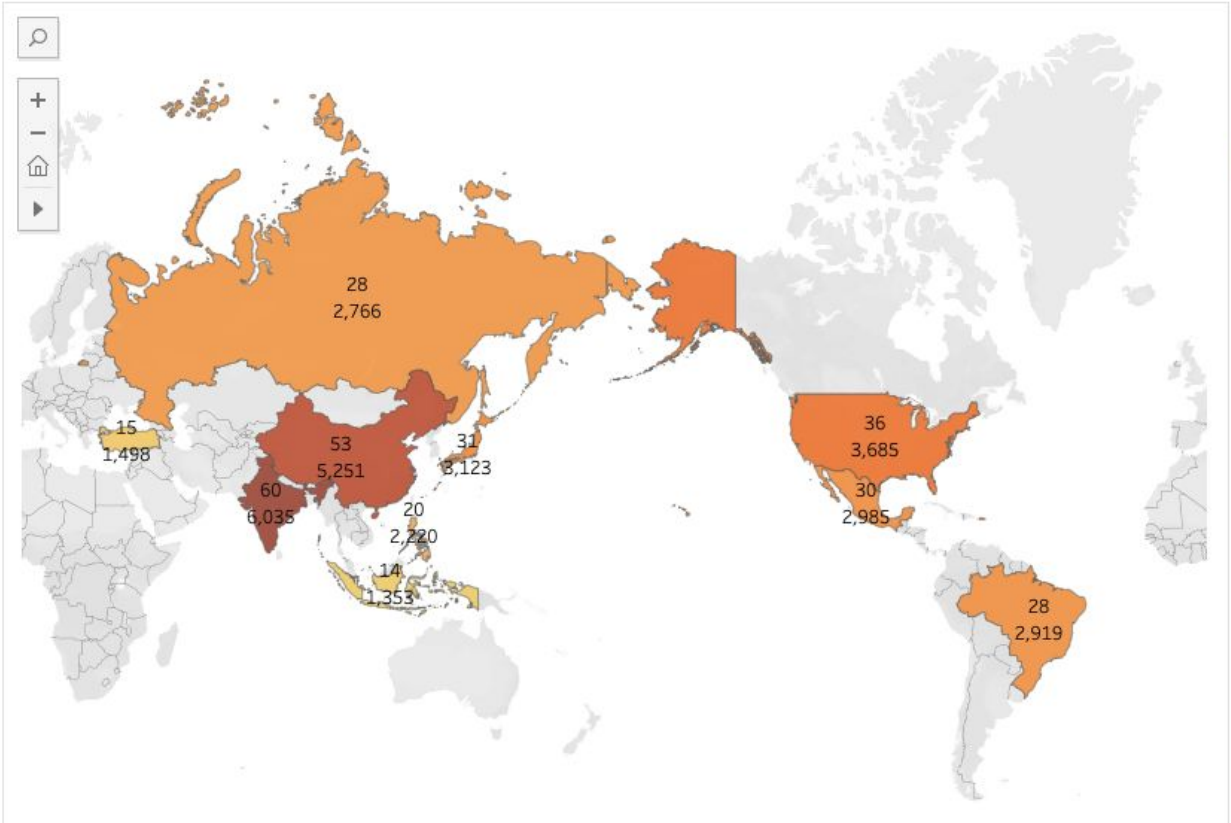
$2.98
Avg. rental cost



$ 19.98
Avg. Replacement cost

Key Insights

Top 10 Countries in terms of customer number and revenue



Number Of Customer
14 60

Total Revenue
1,353 6,035

ASIA
Highest Revenue

10% of Revenue
India only

Results

Recommendation

- Target markets with high customer base and high revenue.
- Consider promoting the movies under popular genres in the online platform.

Visualizations

Complete visualizations for the project can be found **here.**

Deliverables

PowerPoint Presentation

Tableau Dashboard

Github Repository

Challenges

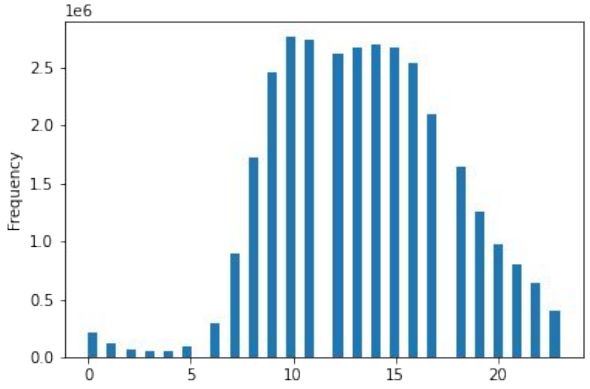
Lack of access to current data.

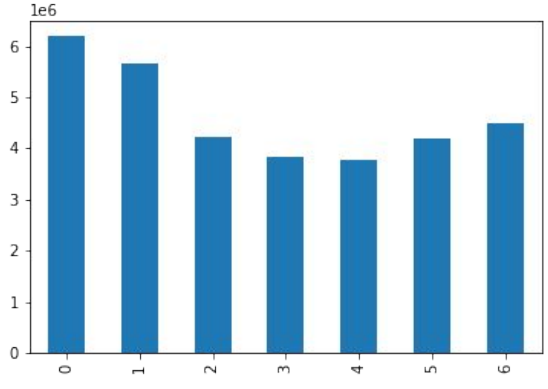
04

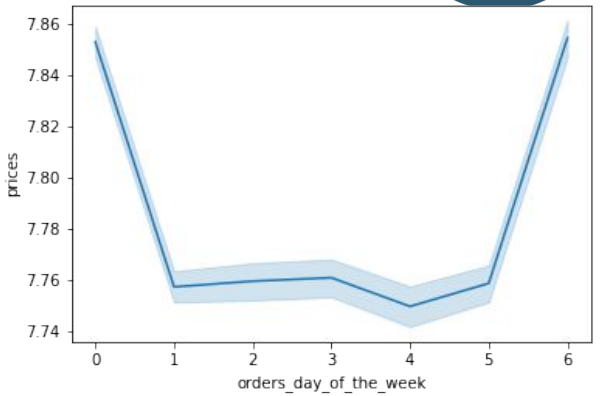
Instacart

Objectives:	Tools:	Skills:	Resources:
Perform an exploratory analysis to answer business questions and derive insights about buying trends and customer demographics in order to target customers with applicable marketing strategies.	Excel Python Numpy	Data wrangling, Data merging, Deriving variables, Grouping data, Aggregating data, Reporting in Excel, Population flows	Data Set

Key Insights







9 AM to 4 PM

Most Busy Hours

Most Busy Days

0: Saturday
1: Sunday

Weekends

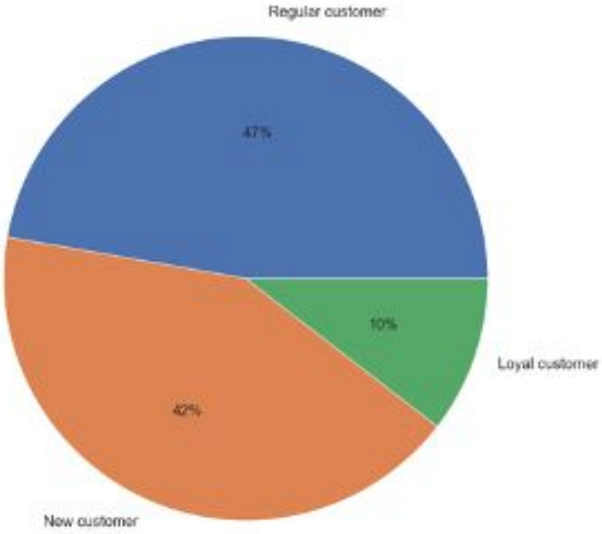
Expensive Products

Purchased On

Weekends

Key Insights

Composition of Orders By Loyalty Flag



Loyal, Regular and New

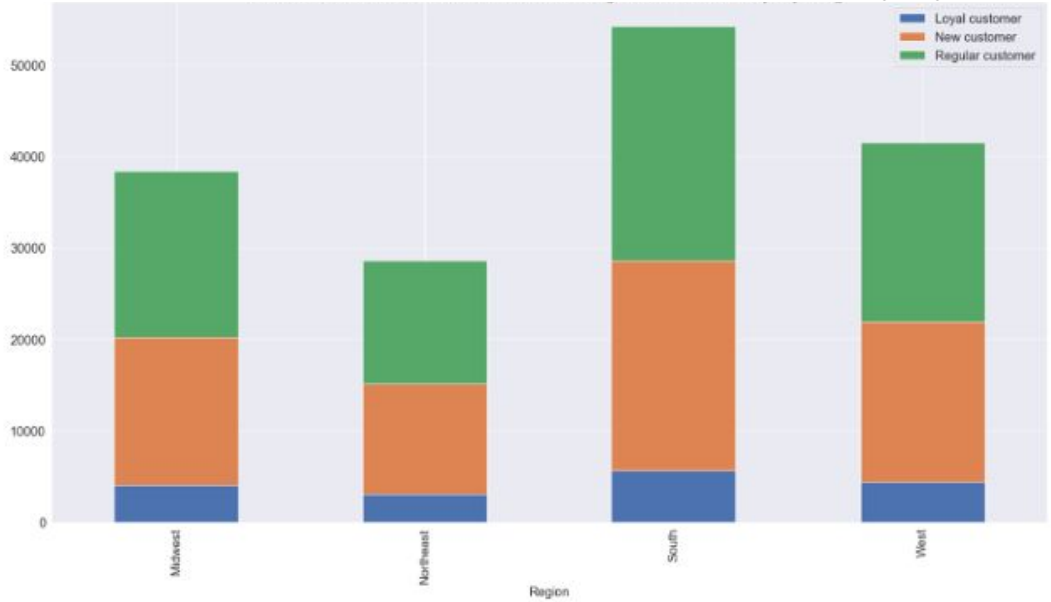
South Region

Highest Customer

Regular Customers

Orders Made **47%**

Distribution of Customers across US Regions based on Loyalty Flag



Results

Recommendation

- Ads should be scheduled from 4 pm till 9 am during weekdays when there are fewer orders.
- Customers should be targeted with ads based on their order history in order to encourage them to order more frequently and become loyal customers.

Visualizations

Complete visualizations for the project can be found **here.**

Deliverables

GitHub Repository

Challenges

Data cleaning, missing values, formatting and standardizing the dataset.

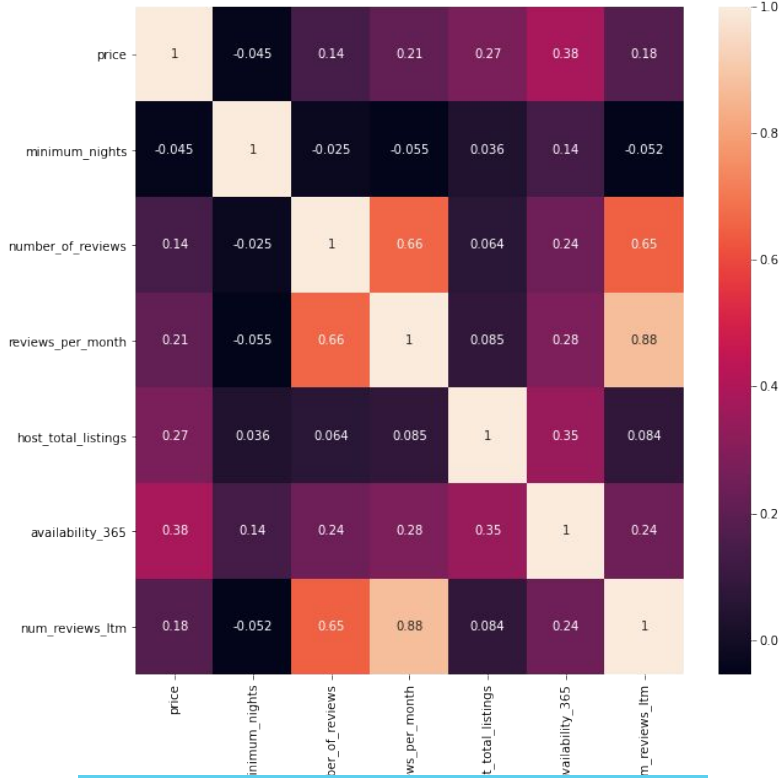
Due to large data set, I ran out of memory and system was quite slow.

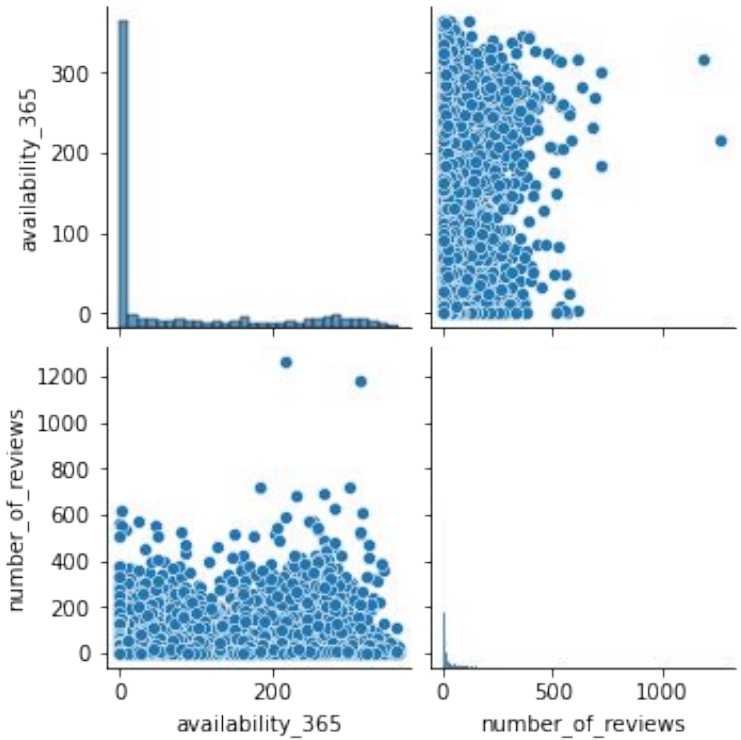
05

Airbnb Berlin

Objectives:	Tools:	Skills:	Resources:
To analyze what variables may impact the price of Airbnb Listing, which districts in Berlin are most popular among tourists and search for any noticeable patterns and trends in the data.	Python Tableau	Geographical Visualizations in Python, Regression Analysis, Unsupervised Learning - Clustering, Time Series Analysis	Data Set

Key Insights





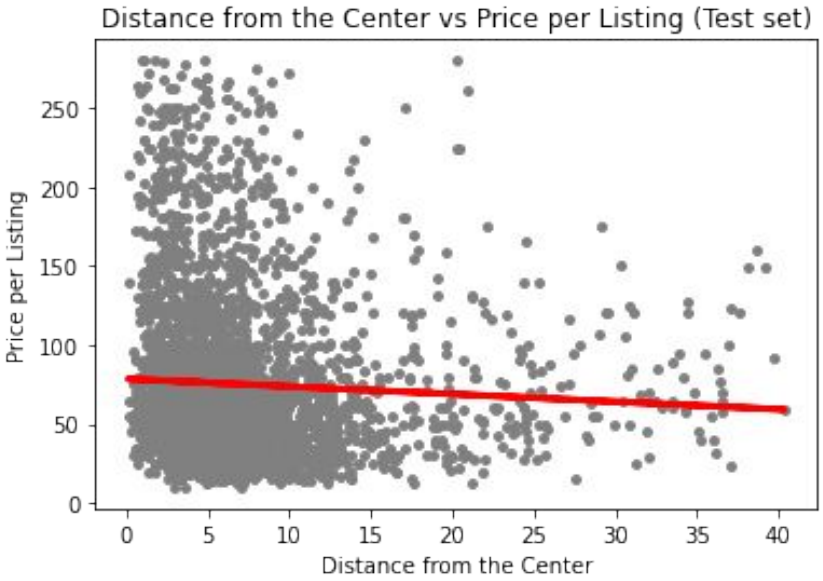
Finding correlation between variables in Airbnb using correlation heatmap

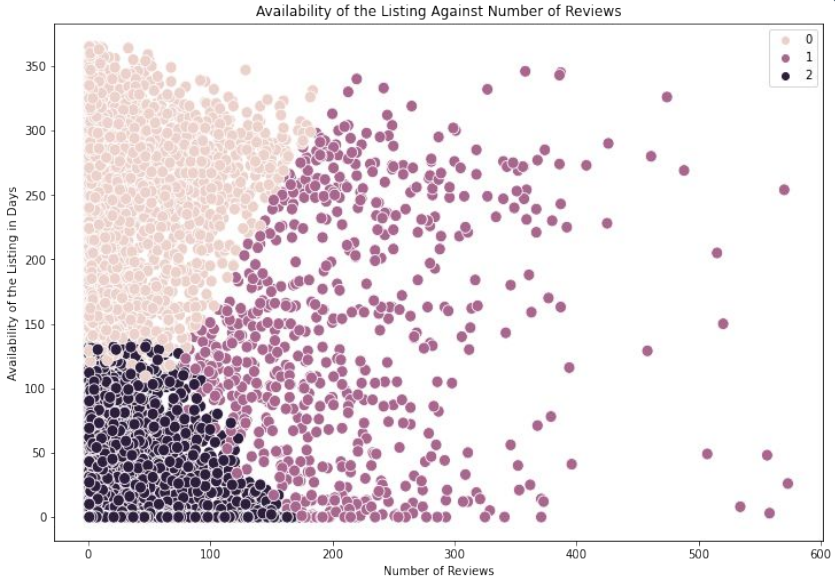
no. of reviews in Airbnb

availability of the listing.

no significant relationship

Key Insights





Regression testing between Price of the Airbnb Listing and Distance from the center of Berlin

K-Means Clustering using Elbow Curve in Python to find the relationship between Number of Reviews and Availability of Listing.

Results

Recommendation

In the end, price and demand of the listing are dependent on several variables and it cannot be assessed or determined by only examining one of them. There are variables that contribute more towards the price of the listing; such as room type and number of rooms.

Visualizations

Complete visualizations for the project can be found **here**.

Deliverables

GitHub Repository

Tableau Story Presentation

Challenges

The data is limiting in size. Further, there is no time series data of daily booking for further analysis.

Do You Have Any Questions?

Ambika Timilsena

Lets Connect!