

OLANREWAJU TAYO ODUWOLE

Data Analyst portfolio

Analytical skills



- ❖ Data Visualization
- ❖ Data Cleaning
- ❖ Problem recommendation
- ❖ Problem Solving
- ❖ Querying
- ❖ Statistical Programming

Tools


















- ❖ Excel
- ❖ Power Point
- ❖ Tableau
- ❖ SQL
- ❖ Python

Soft Skills



- ❖ Collaborative
- ❖ Communication
- ❖ creativity
- ❖ Analytics
- ❖ Curiosity
- ❖ Adaptability
- ❖ Client Experience

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VIDEO GAME SALES



PROJECT OVERVIEW

Objectives:

- ❖ Perform a descriptive analysis of a video game sales data set to foster a better understanding of how GameCo's new games might fare in the market.
- ❖ Compare assumptions about historical regional sales with the reality of current market conditions.

Tool used

Excel

Power Point

Data Exploration

Data Cleaning

Data Grouping
(Pivot Tables)

Create
Visualization

Write Narrative
report

Create
presentation and
recommendations

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?

Links :

[Gameco Project Reflections](#)

[video Game Data](#)

[Project_Brief](#)

❖ **Processes :**



Skills

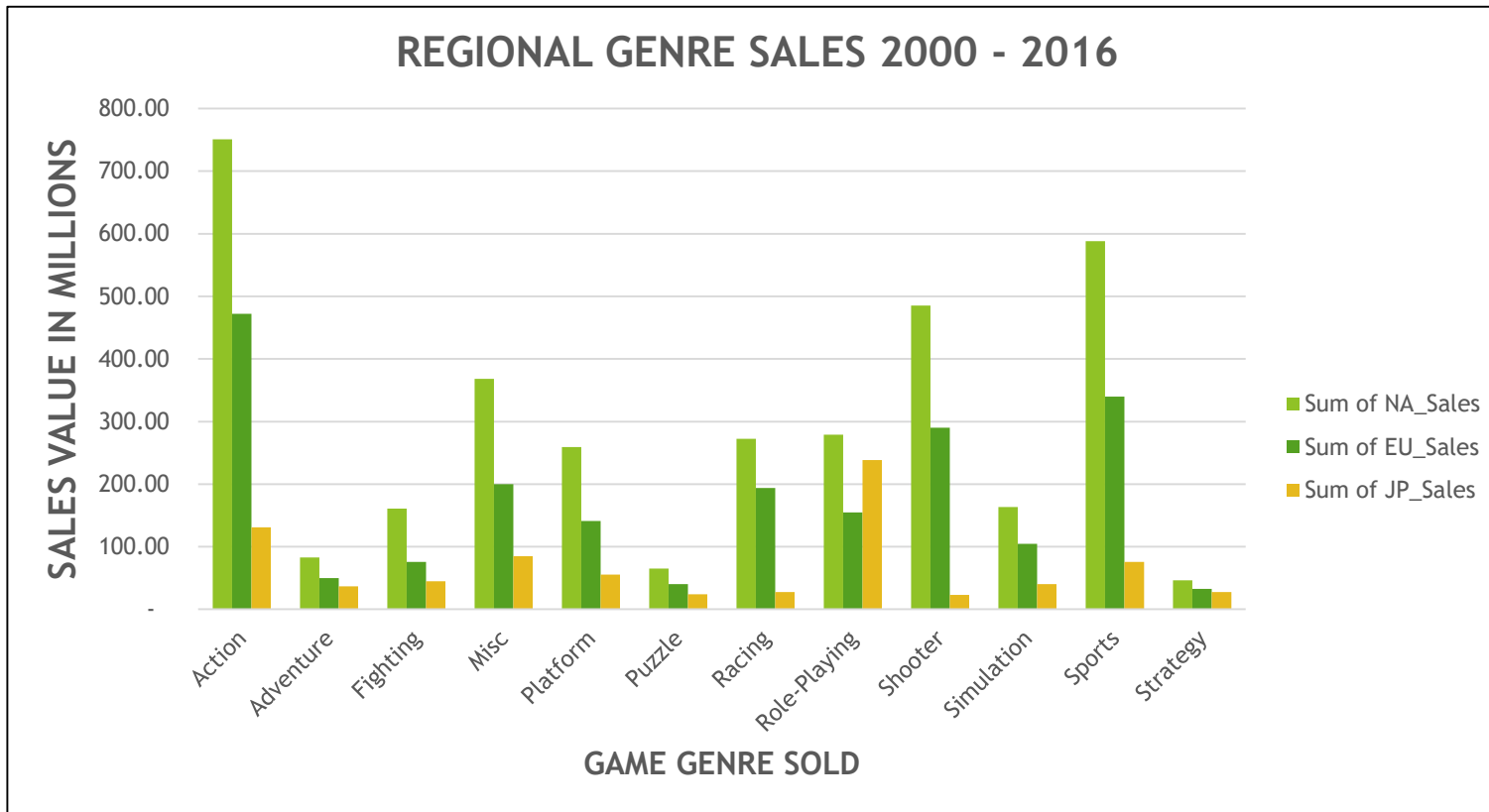
Descriptive Analysis

Data Grouping

Data Summarizing

Data Visualization

Are certain types of games more popular than others?



- ▶ N. America has the highest sales in all the genre and the most selling genre are Action, Sport and Shooter.
- ▶ EU also has is Genre highest sales in Action, Sport and shooter.
- ▶ Japan has is genre sales in Roleplaying, action and Simulation.

Insight and Recommendation

Insight

- ▶ Gameco believes sales remained stable, but market share fluctuated. Until 1995, total sales and market share were consistently below \$90 million, led by North America. Since 1996, there's been a significant global market share surge of \$678.26 million, led by North America and the EU. From 1999 onward, despite growth in Europe and gains in Japan, the company faced sales decline, primarily due to reduced sales in North America, their largest global market share

Recommendation

- ▶ Europe's expanding market share calls for increased budget to boost sales in specific genres. Emphasizing a well-executed marketing strategy is essential. Despite a sales dip, North America is pivotal; focus on the right strategy, product awareness, after-sales service, and discounts. In Japan, rising sales in certain genres over the past 6 years present an opportunity for growth, considering expected population increase.



PREPARING FOR INFLUENZA 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.

Tool used

Excel

Tableau

Business Questions

- ▶ Who are the vulnerable Population?
- ▶ Which states has the highest affected population?
- ▶ When is the influenza season?
- ▶ How many resources are needed?

- ▶ Links:

[Tableau Public](#)

[A1-A2 Data Immersion_Project Brief](#)

[CDC Census Population](#)

[CDC_Influenza_Visits](#)

- ▶ Processes:

Skills
Data Cleaning
Data integration
Data Transformation
Statistical Hypothesis Testing
Forecasting
Tableau Visualization
Presentation of result

Data Profiling & Integrity

Data
Transformation &
Integration

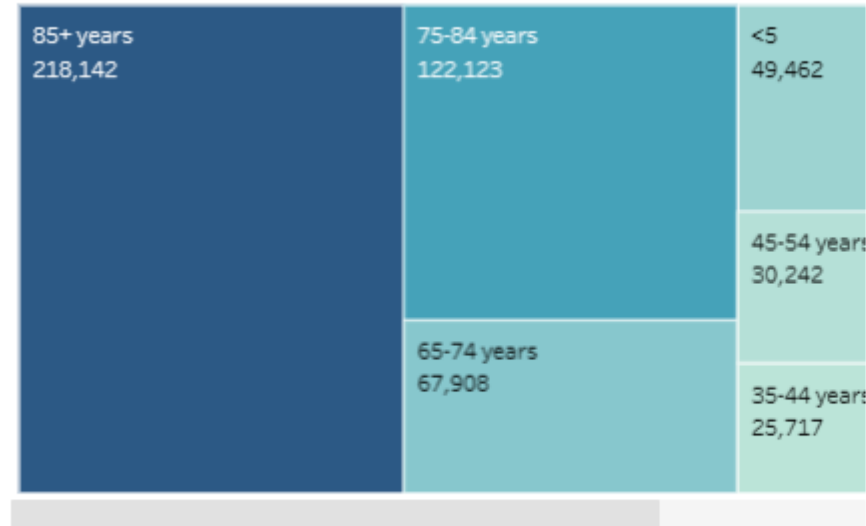
Statistical
Hypothesis
Testing

Tableau
Visualization
Creation

Insight
Presentation

Recommendation

Age Group Death 2009 - 2017



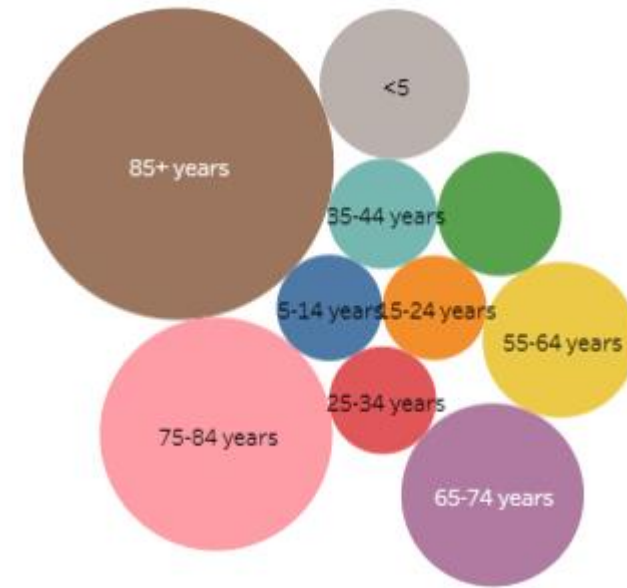
- The Age group of 65 Years and above faces a high risk of flu death
- Also the age group of less than 5 years has a high risk of death too by the flu.

Ten-Year Age ...

- 5-14 years
- 15-24 years
- 25-34 years
- 35-44 years
- 45-54 years
- 55-64 years
- 65-74 years
- 75-84 years
- 85+ years
- <5

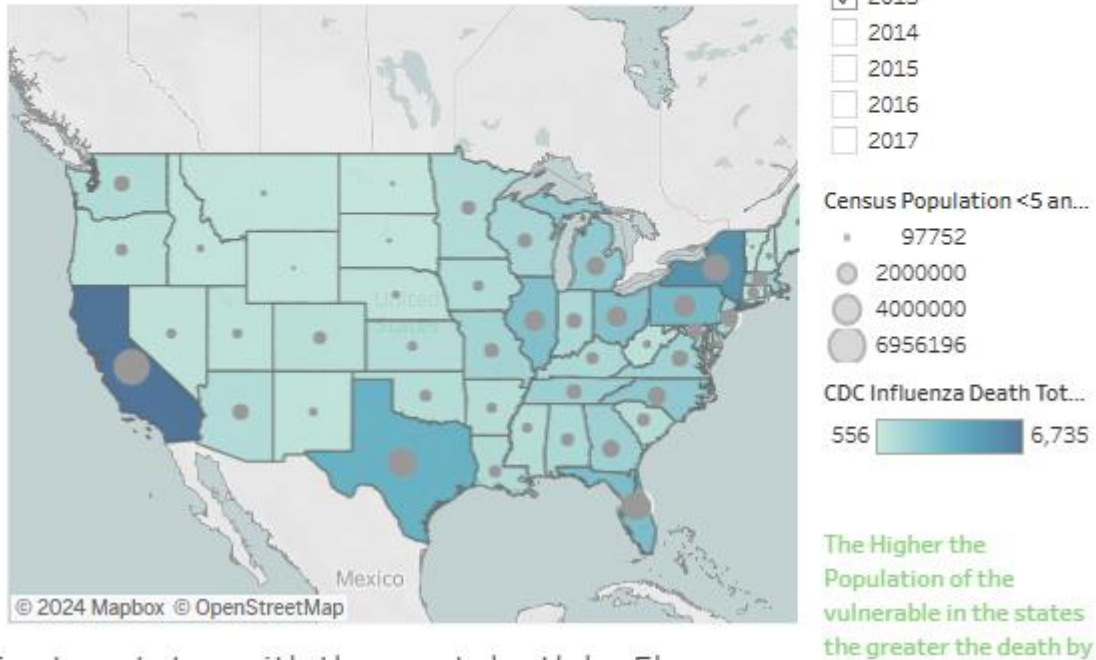
Year of Year (...)

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

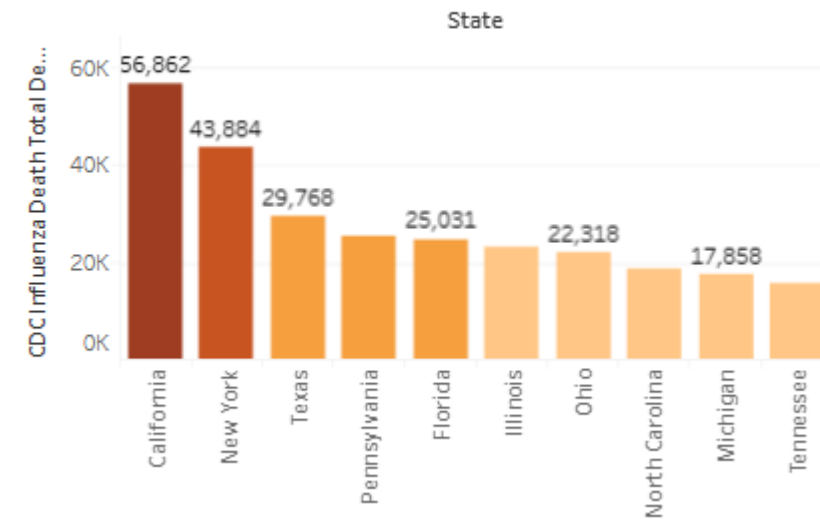


Flu Distribution across the states

Influenza By State 2015



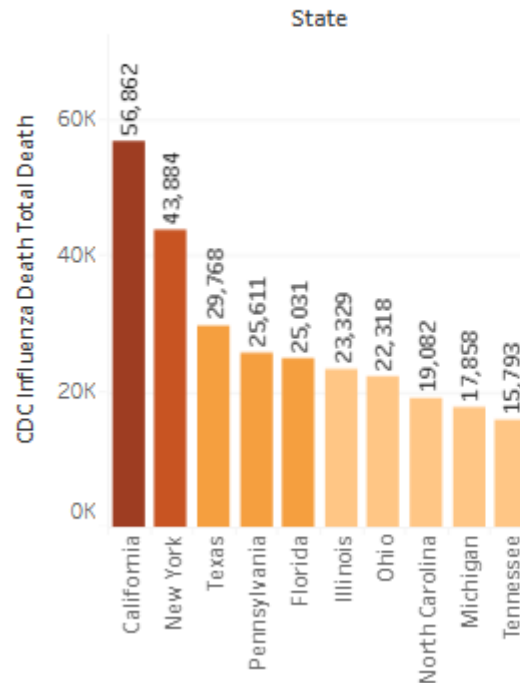
Top ten states with the most death by Flu



Conclusion

- ❖ Who are the vulnerable population?
- ❖ Which state is the most affected by flu?
- ❖ When is the flu season?
- ❖ The age group of 65years and above and less than 5 Years
- ❖ The States with higher Population of (< 5years and >= 65years)
- ❖ The flu spread all through the months in the year but an increase in August and its peak in January.

Top ten states with the most death by Flu



Recommendation

- With respect to the analysis it is recommended that to prevent the high risk of flu death among the vulnerable population in the states immunization should dispense all through the months of the year and those in the vulnerable group should be encouraged to have the jab.
- More medical staff should be allocated to the top ten high-risk states and more awareness of flu immunization should be sensitized in the affected states.

ROCKBUSTER STEALTH LLC BUSINESS ANALYSIS



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

❖ Film in database 1000	❖ Film Occurring Most PG – 13	❖ Revenue \$ 61,312.04	❖ AVG rental_duration 5 days
❖ Customers 599	❖ Film Language English	❖ AVG Replacement cost \$ 19.984	❖ AVG film length 115.272min
❖ Release Year of Movie 2006	❖ Country presence 109	❖ <u>AVG rental rate</u> \$ 2.98	



Tools Used

SQL

Tableau

DB Visualizer

Excel

Key Questions And Objectives

- ▶ 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 a high lifetime value based?
- ▶ Do sales figures vary between geographic regions?

- ▶ Links:

[Tableau Public](#)

[Regional Overview | Tableau Public](#)

[RockbusterStealth Business Analyses](#)

[A3_Data_Project_Brief](#)

- ▶ Processes:

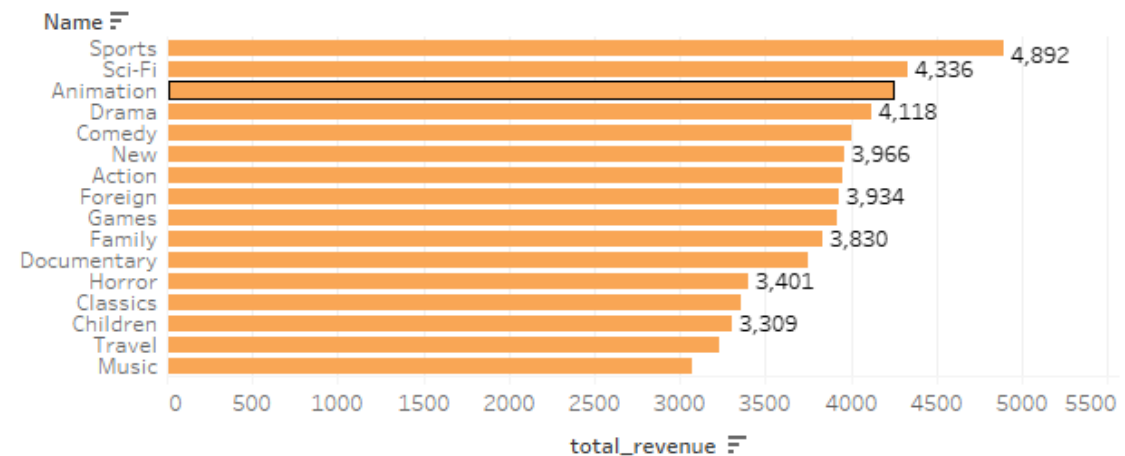


Skills
Database Query
Joining Tables
Common Table Expression
Subqueries
Creating Data Dictionary
CRUD Operations

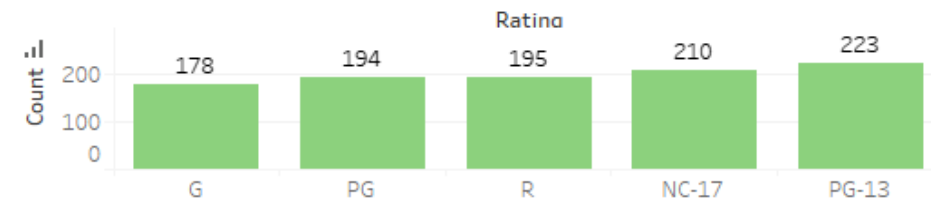
REVENUE ANALYSIS

```
SELECT
  c.name,
  SUM (p.amount) AS total_revenue
FROM film AS A
JOIN film_category AS fc USING (film_id)
JOIN category AS c USING (category_id)
JOIN inventory AS i ON A.film_id = i.film_id
JOIN rental AS r ON i.inventory_id = r.inventory_id
JOIN payment AS p ON r.rental_id = p.rental_id
GROUP BY c.name
ORDER BY total_revenue DESC
```

Movie Category



Moving Rating

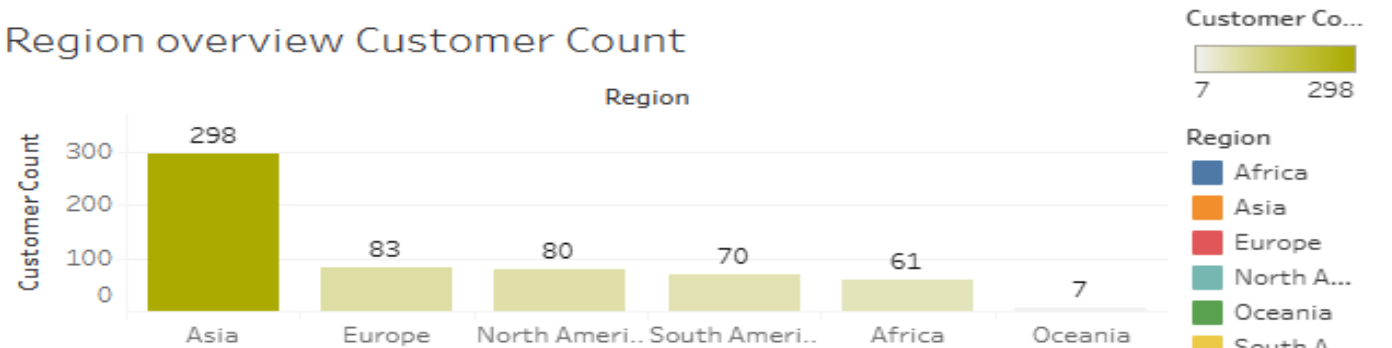


Customer base Globally and their contribution.

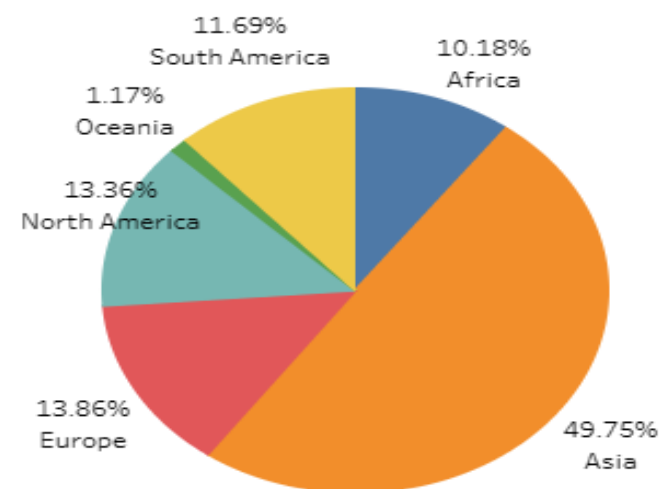


```
SELECT D.country,  
       COUNT (customer_id) AS  
       customer_numbers  
FROM customer A  
INNER JOIN address B ON  
A.address_id = B.address_id  
INNER JOIN city C ON  
B.city_id = C.city_id  
INNER JOIN country D ON  
C.country_id = D.country_id  
GROUP BY country  
ORDER BY count  
(customer_id) DESC
```

Region overview Customer Count



Region overview by Revenue



Recommendation

- ▶ stealth llc should invest more on moves category like sport, Sci-fi, Rockbuster Drama and Animation.
- ▶ They should also increase their market share in other region where the have few dominance like Africa, Oceania, South America.
- ▶ A good loyalty rewarding package should be encourage for there customers in Asia, Europe and North American.
- ▶ The should also invest more in movie variety and introduce new more movies into the market.
- ▶ Film subtitle with other languages aside English should be introduce for more acceptance
- ▶ Lastly Rockbuster should develop European, American and African Market for prospective customer acquisition



INSTACART BASKET ANALYSIS



PROJECT OVERVIEW

Objective :

Instacart, an online grocery store that operates through an app. Instacart already has very good sales, but they want to uncover more information about their sales patterns. The task is to perform an initial data and exploratory analysis of some of their data in order to derive insights and suggest strategies for better segmentation based on the provided criteria.

Tools Used

Python

Excel

Key Questions:

Key Questions:

- What are the busiest days and hours of the week?
- Are there particular times of the day when people spend the most money?
- How can we price range groupings be simplified?
- Are there certain types of products that are more popular than others?
- The marketing and sales teams want to know which departments have the highest frequency of product orders?
- What different classifications does the demographic information suggest? Age? Income? Certain types of goods? Family status?

➤ Links:

[Instacart Python](#)

[A4 Data Immersion Project Brief](#)

➤ Processes:



Skills

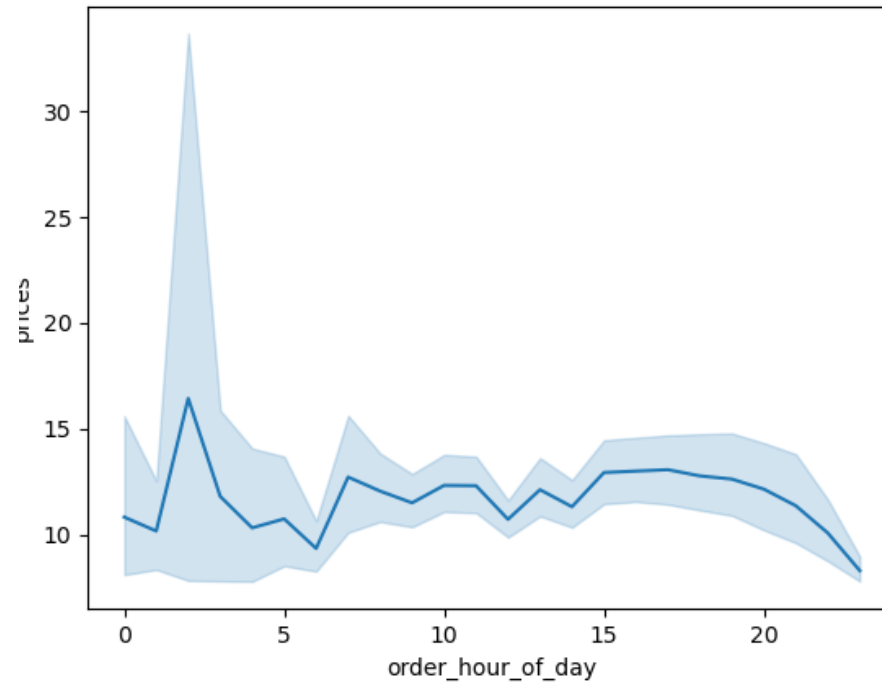
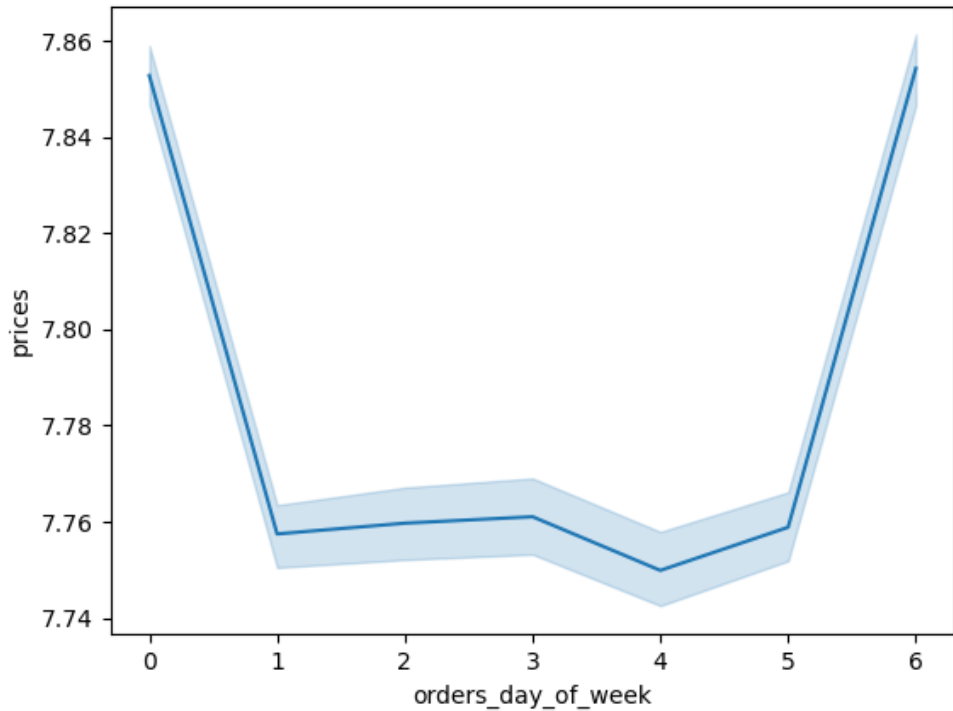
Data Wrangling

Data Constituency check
Combining Data

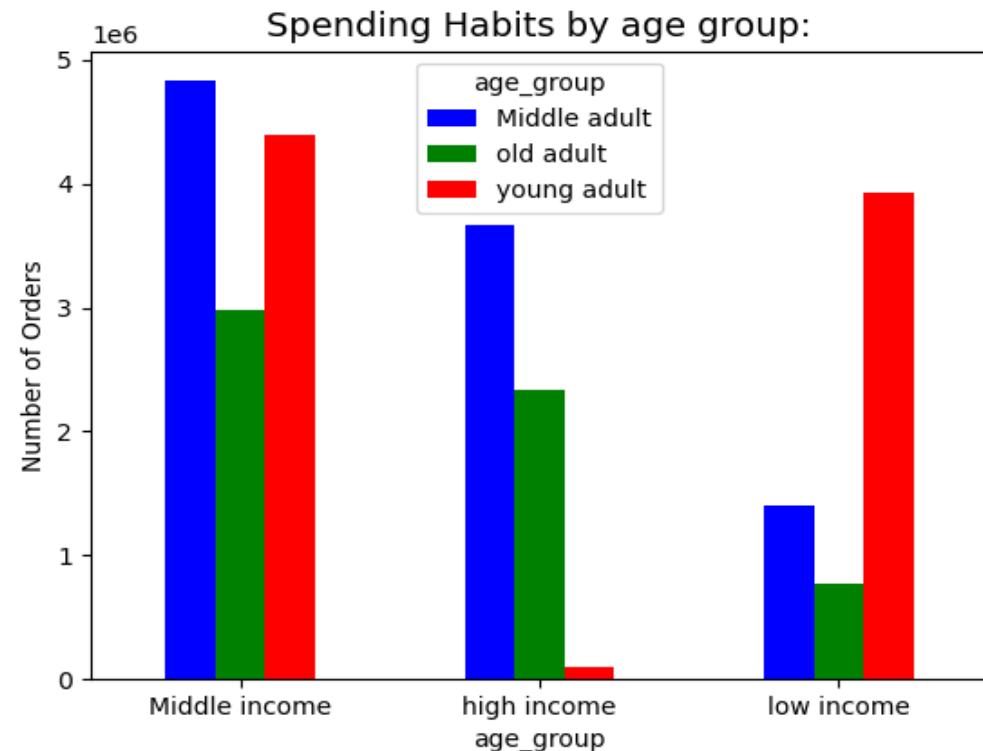
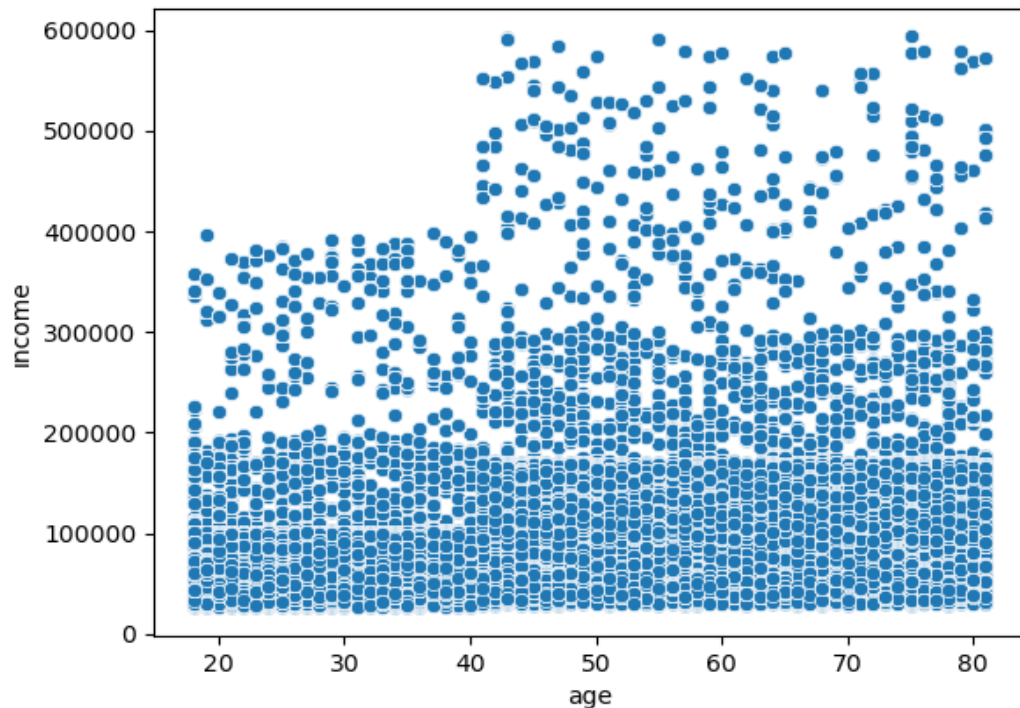
Grouping & Aggregating Data

Data Visualization Via Python

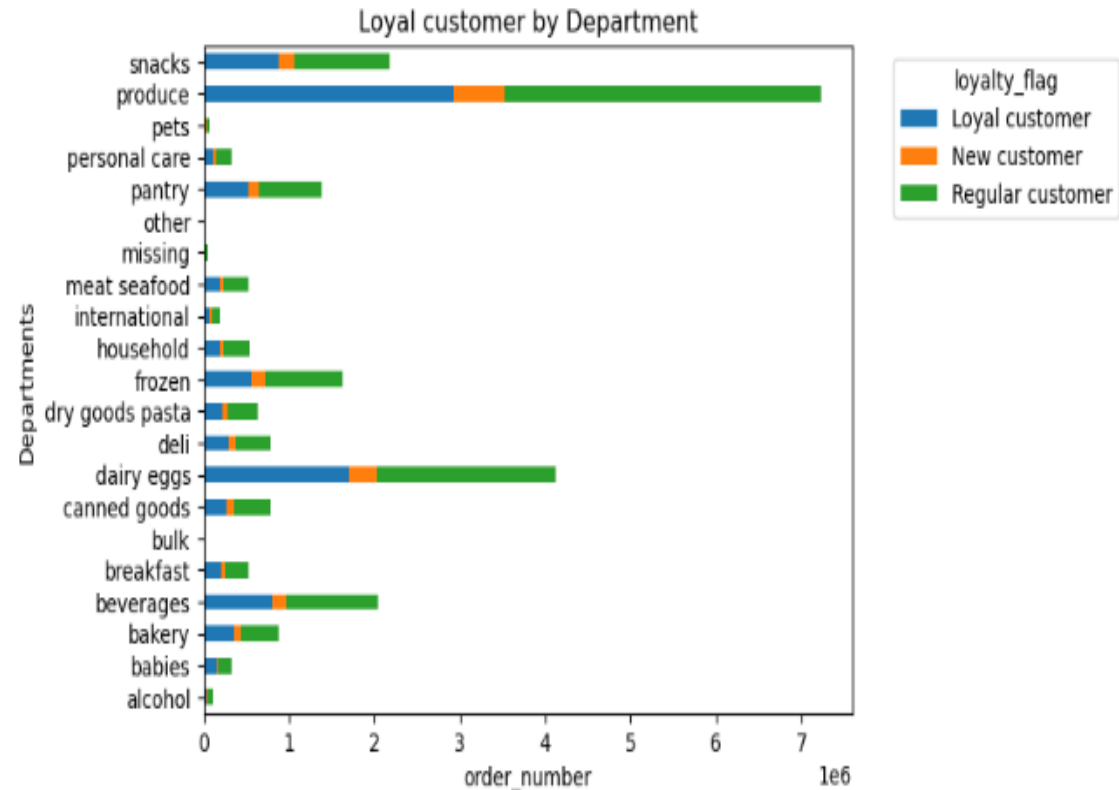
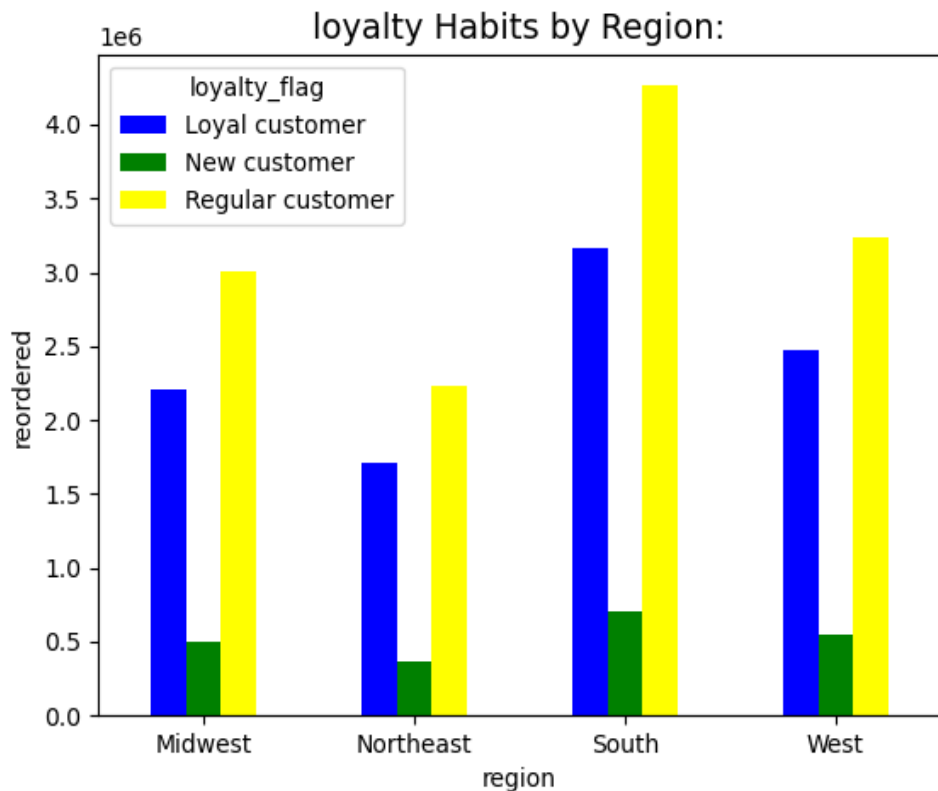
Price comparison of order hour of day and order day of the week



Correlation between age and income along with customer profiling



Customer categories and spending habit within the region and departments.



Recommendation

- ▶ The busiest days tend to be Saturday and Sunday, while the slowest days are Thursdays and Mondays. instacat could consider running promotions on the slow days to attract customers.
- ▶ The peak hours tend to be from 8am to 9pm. instacat could consider running an 'earlybird' promotion in the early morning (6am to 8am) and another 'happy hour' promotion in the evenings (9-11pm). This could attract potential customers who are going into home or leaving work late
- ▶ Prices vary greatly in the early morning hours from midnight to 7am. Prices tend to be the lowest around 7am to 8pm which happened to be the busiest hour of order and at his pick at 2am. . This could be as a result that most of the customer base are married people with children who do their shopping with in those hours . instacat could run promotions or discount targeting this particular set of family status at those specific times in day.
- ▶ Most of the products purchased range between \$2 and \$15 with very few product greater than \$15. Any promotions or advert or discount should focus on items in this price range.
- ▶ In terms of region, the West and South are the largest customer base, while the Northeast is the smallest. Also based on loyalty customers regular customers are more than loyal customers while new customers are few. instacat can introduce promo for new customers to attract them and also discounts for both loyal and regular customers

Pig E. Bank



PROJECT OVERVIEW

- The goal of this project is to assist the sales team of Pig E. Bank increase customer retention, by identifying factors that would cause a customer to leave the Bank.

Tools Used

Excel

Word

Power point

Key Questions:

- ❖ Identify the risk factors that have contributed to customers leaving the bank.

- ❖ Data: [5.4-PigEBank-Client-Data](#)

- ❖ Processes:



Skills

Big data and data ethics

Data mining

Data quality assessment and cleaning

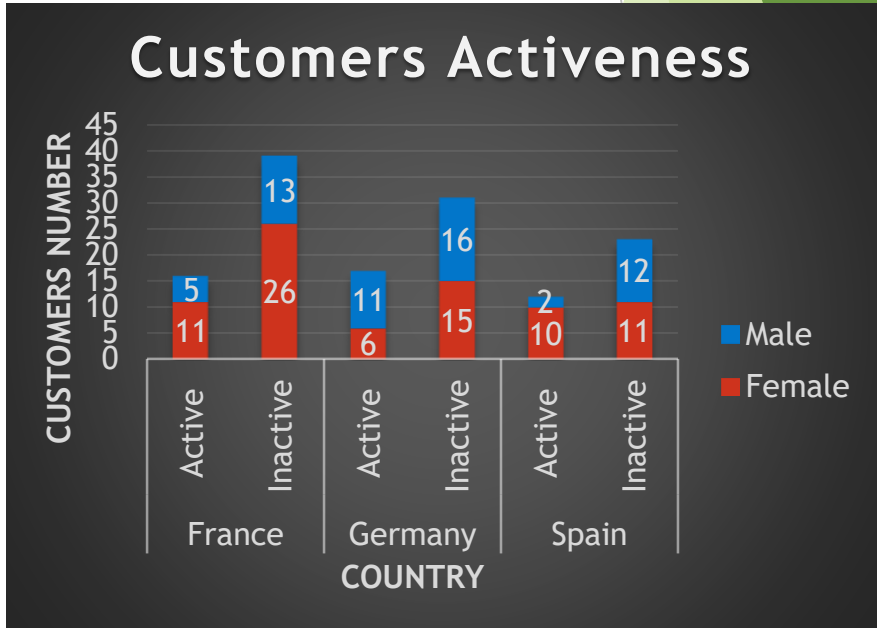
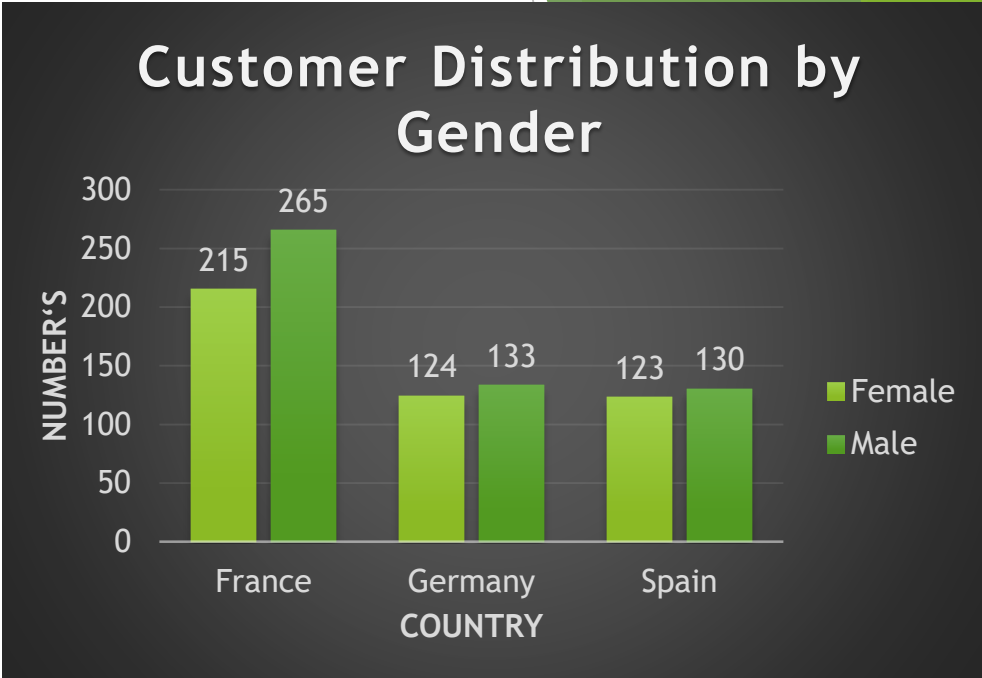
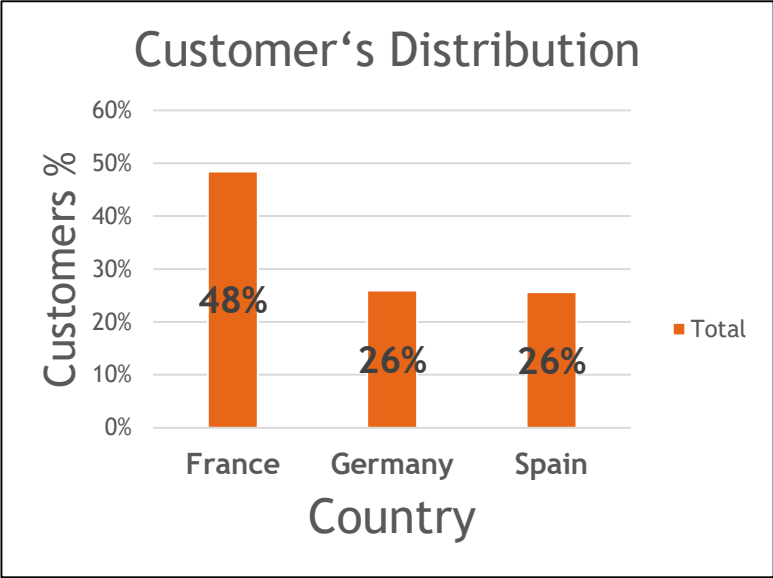
Descriptive statistics

Predictive analysis

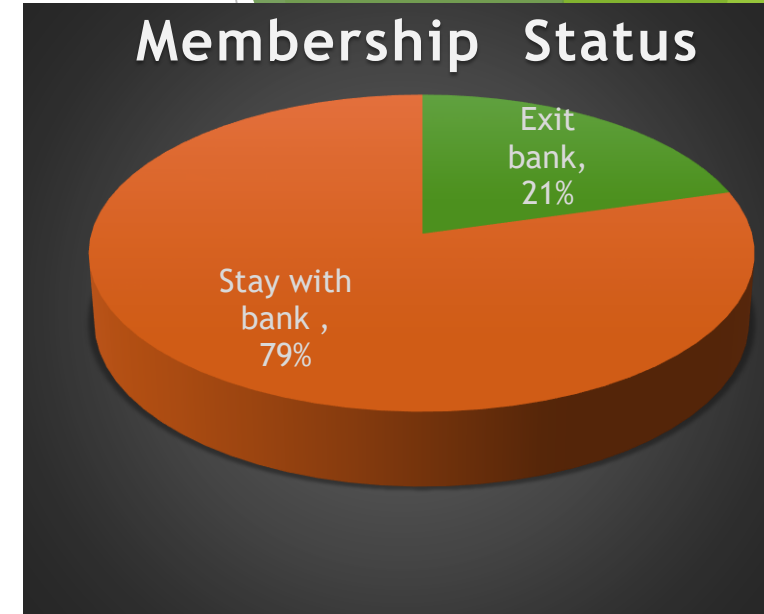
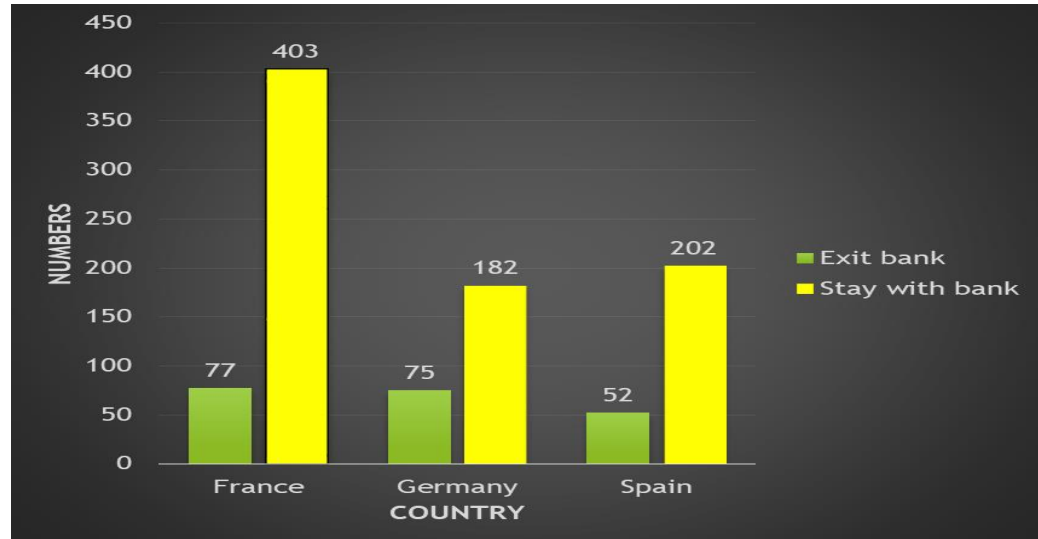
Time series analysis and forecasting

Customer's Distribution

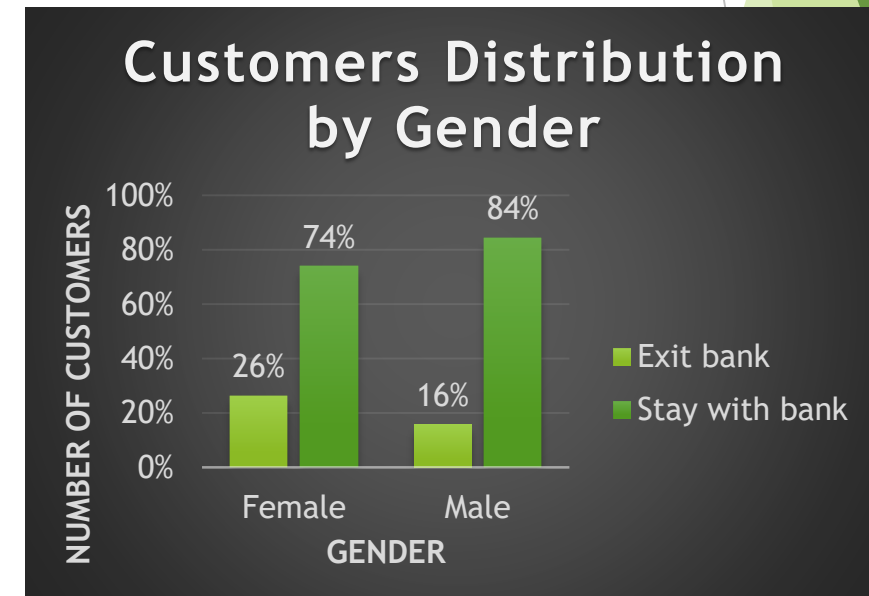
- ▶ France has the highest number of customer i.e. 48% of the customer distributions while Spain and Germany has 26% each.



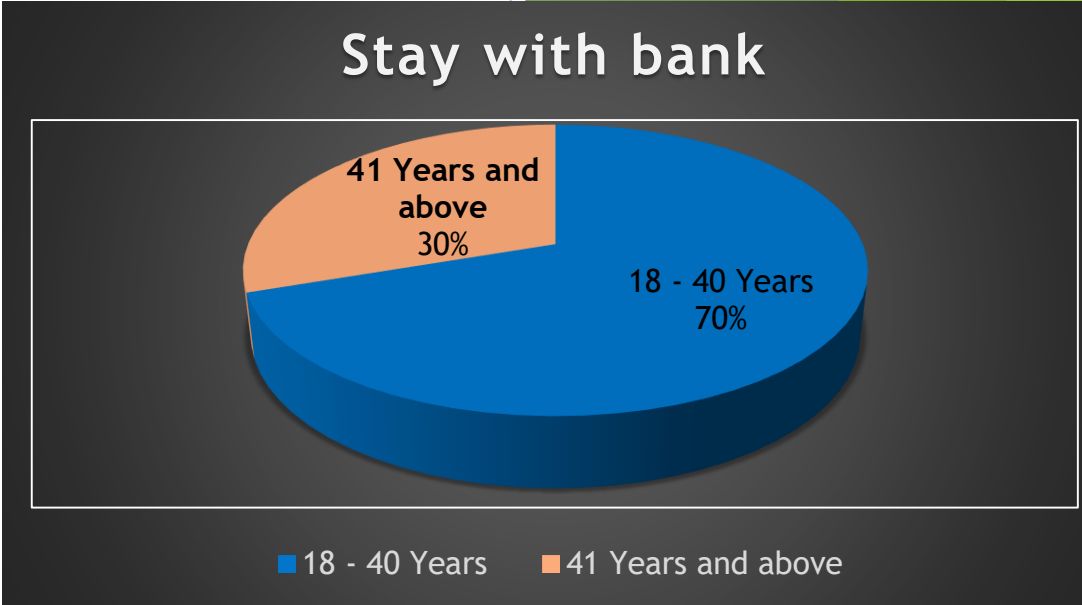
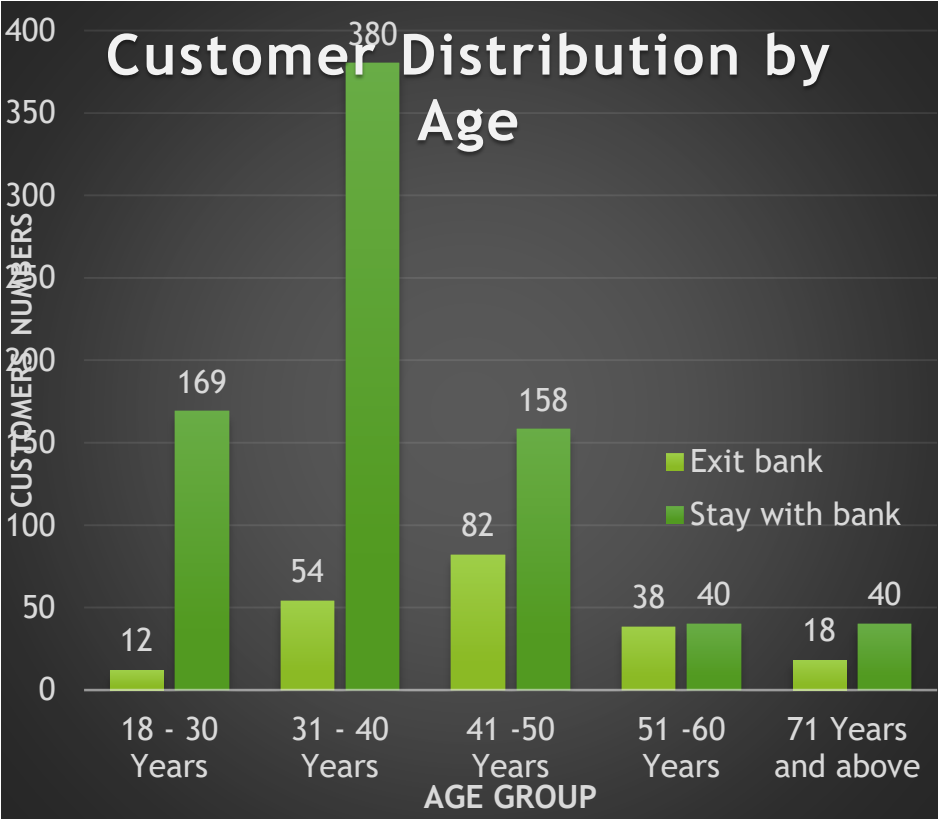
- ▶ 21% of customers have left the bank having 79% staying with bank.
- ▶ 26% of female customers left compare to 16% of there male counterpart.
- ▶ Germany has more customers who left the bank compare to France



Count of Customer ID	Column Labels		
Row Labels	Exit bank	Stay with bank	Grand Total
France			
Female	24%	76%	100%
Male	10%	90%	100%
Germany			
Female	31%	69%	100%
Male	27%	73%	100%
Spain			
Female	25%	75%	100%
Male	16%	84%	100%
Grand Total	21%	79%	100%



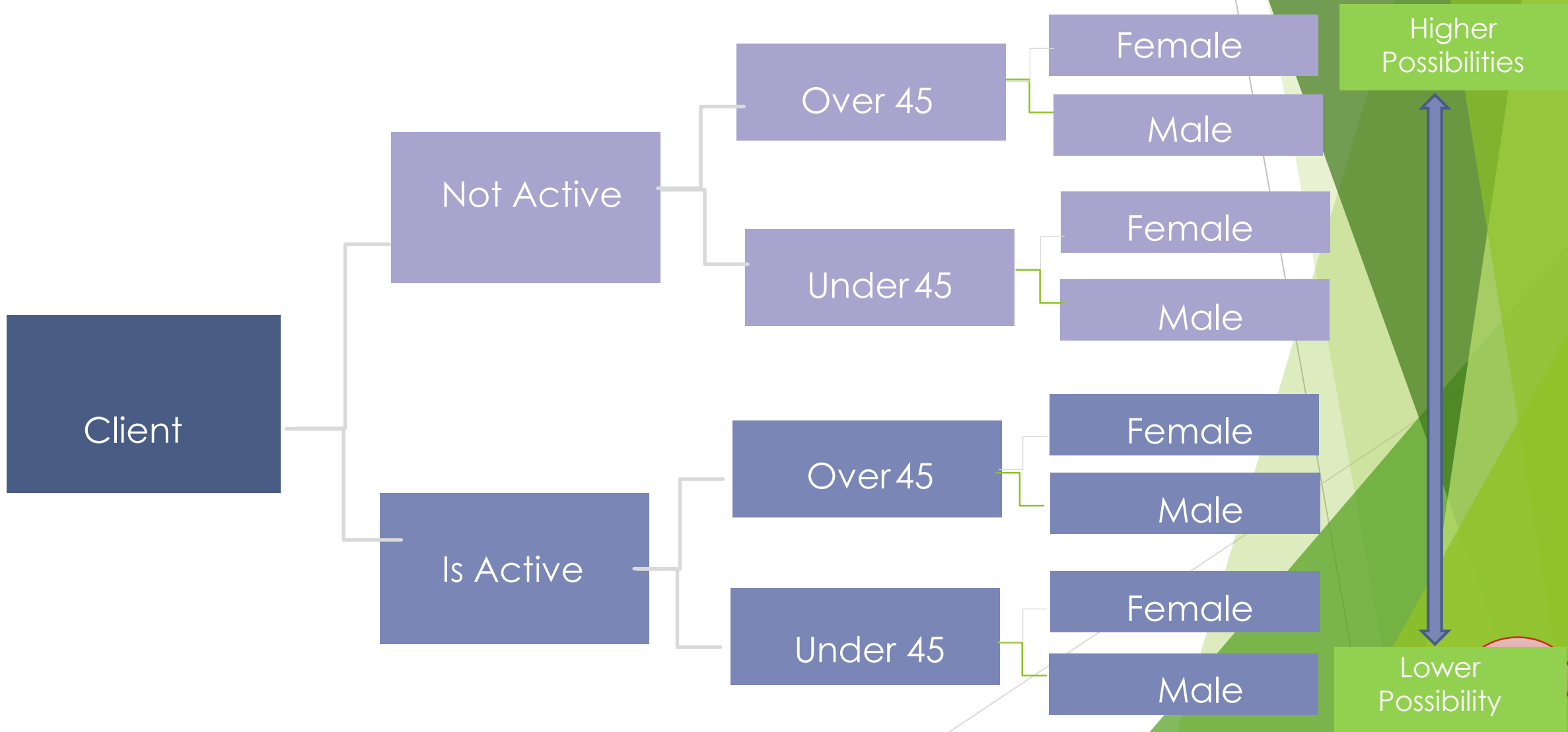
- ▶ Majority of the customers are between the age 18 - 40 years.
- ▶ The percentage of older people of 41 years(68%) and above that left is higher than those within 40 years(32%)and below.



Count of Customer_ID	Column Labels		
Row Labels	Exit bank	Stay with bank	Grand Total
18 - 30 Years	6%	21%	18%
31 - 40 Years	26%	48%	44%
41 - 50 Years	40%	20%	24%
51 - 60 Years	19%	5%	8%
71 Years and above	9%	5%	6%
Grand Total	100%	100%	100%

Decision Tree

Exist Risk Factors for Fig. E. Bank Client



Conclusion

- ▶ The leading factor that has a notable difference in the customers staying or leaving the bank are Age, Gender and Activeness of the customers.
- ▶ A survey need to be carried out to determine the reason why older customers are leaving the PIG E bank.
- ▶ Long time investment product should be promoted as this will keep customer more active and stayed.
- ▶ Investment rate should be increase to keep customers with high balance/saving.



Superstore Sales Dataset 2015 - 2019



PROJECT OVERVIEW

- Driven by a strategic curiosity to uncover optimal operational strategies for the Superstore Giant, my project was fueled by inquiries aimed at deepening understanding. With a primary objective to illuminate effective product offerings, regional focus areas, product categories, and customer segments, I meticulously selected and curated a dataset from Kaggle, tailored to meet the exacting standards of a contemporary retail giant. In a landscape marked by rising expectations and fierce market competition, enterprises are actively seeking innovative tactics to enhance financial performance. This pursuit of insight and innovation remains crucial in navigating the ever-evolving demands of the marketplace.

- **Data Source**

dataset was obtained from Kaggle.com.

Tools Used

Excel

Anaconda

Jupyter Notebook

Python

Python libraries
Pandas, NumPy,
Seaborn, Matplotlib,
Folium, and scikit-
learn

Tableau

Business Questions :

- ▶ How has the sales trend evolved from 2015 to 2019?
- ▶ Can patterns be identified regarding peak sales periods or seasonal variations in the dataset?
- ▶ In what ways do sales figures differ across various product categories and subcategories?
- ▶ Which products are top sellers and which ones are underperforming?
- ▶ What regions show the highest demand for certain products?
- ▶ Which customer segments are the most profitable or have the highest potential?
- ▶ Are there any categories that are consistently popular or declining?

Links:

Data: [Superstore_clean](#)

[Tableau Public](#)

[github.com](#)

▶ Processing:



Skills

Sourcing open data

Data cleaning

wrangling

Performing exploratory
visual analysis

Supervised machine
learning with linear
regression

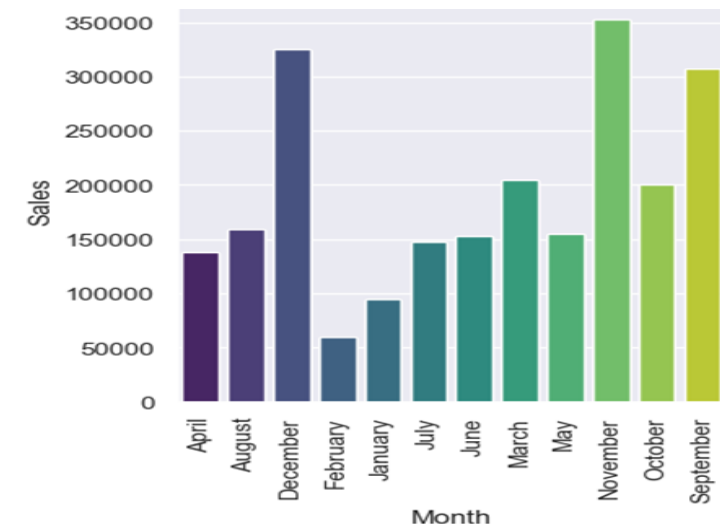
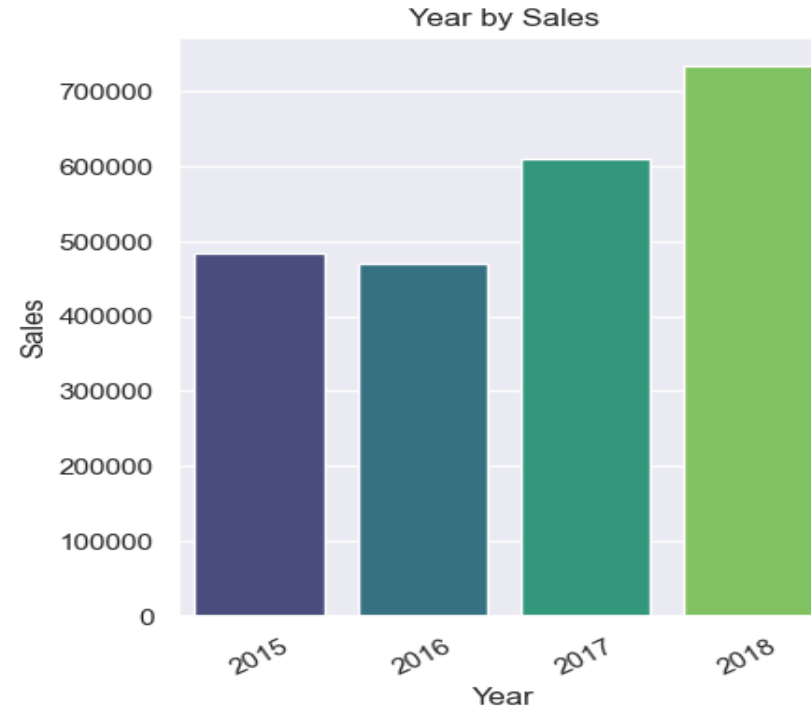
Unsupervised machine
learning with k-means
clustering

Sourcing and analyzing
time-series data

Creating a data
dashboard

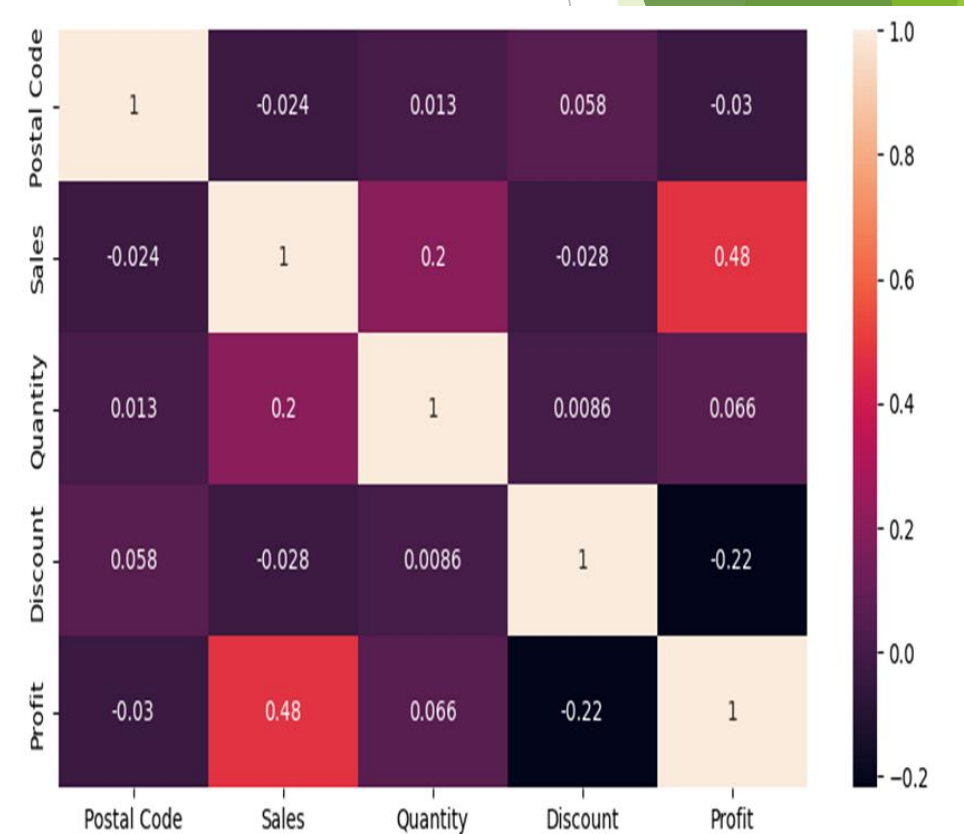
sales trend Over the Years

- ▶ Overall, there has been a consistent increase in sales over the years.
- ▶ sales has its peak in December with a gradual rise from September which shows that most of the product are more like seasonal product.
- ▶ East and West regions significantly contribute to the company's financial performance. These regions emerge as crucial drivers of the company's success, playing pivotal roles in both revenue generation and profitability.



Correlation between Variables

- ▶ With a correlation coefficient of 0.48, there exists a moderately strong positive relationship between sales and profit.
- ▶ As sales increase, profit tends to rise as well, and conversely, as sales decrease, profit tends to decline. Although the relationship isn't perfect, it is considered positive.
- ▶ A very low negative correlation of -0.028 between discount and sales indicates an extremely weak negative relationship.
- ▶ Practically speaking, this correlation implies that there is nearly no linear association between the discount amount and sales level. Changes in discount have minimal impact on sale
- ▶ The negative correlation coefficient of -0.22 suggests a weak negative relationship between discounts and profits.
- ▶ This indicates that as discounts increase, profits tend to decrease, and vice versa. However, the correlation is not strong, implying that other factors beyond just discounts play a significant role in determining profitability.
- ▶ While discounts may attract more sales volume, they may also lead to reduced profit margins, highlighting the delicate balance between driving revenue and maintaining profitability.



Conclusion

- ▶ **Positive Sales and Profit Correlation:** The analysis reveals a positive correlation between sales and profit, indicating that as sales increase, profits also tend to increase. This suggests that the company's profitability is closely linked to its sales performance. However, it's essential to recognize that correlation does not imply causation, and other factors may influence both sales and profits concurrently.
- ▶ **Limited Impact of Discounts on Sales:** Despite the positive correlation between sales and profit, there appears to be a negligible correlation between discounts and sales. This implies that changes in the discount rate have minimal impact on sales volume. It's possible that customers are less sensitive to price changes or that other factors play a more significant role in driving sales.
- ▶ **Consideration of Other Factors:** While the analysis highlights the relationship between sales, profit, and discounts, it's crucial to consider other factors that may influence business performance. Market demand, operational efficiency, and marketing effectiveness could also impact sales and profit margins.
- ▶ **Recommendations for Strategic Decision-Making:** In light of these findings, the Superstore may need to focus on strategies to increase sales while maintaining profitability. This could involve optimizing pricing strategies, improving operational efficiency, and enhancing marketing efforts to attract customers. Additionally, the company should continue monitoring sales and profit trends over time to adapt its strategies accordingly and remain competitive in the market.

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