JAVIERA QUEZADA

Data Analyst | Business Intelligence

ABOUT ME.

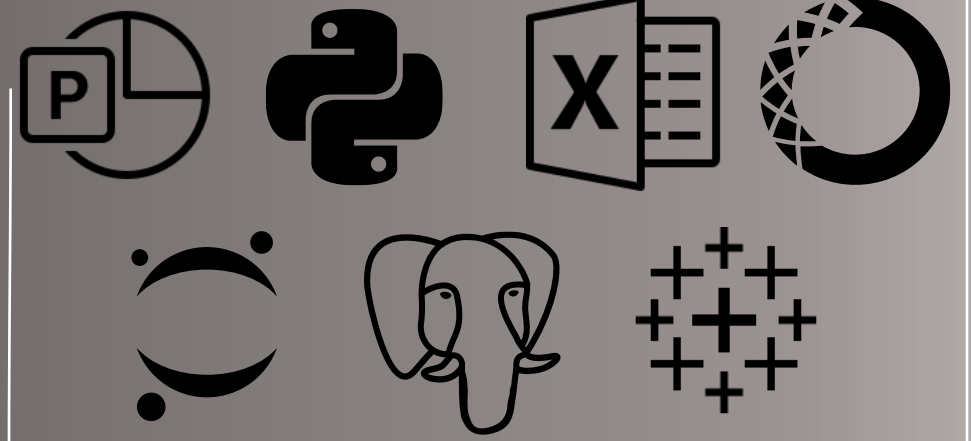
Currently diving into the **luxury retail** world, I'm expanding my understanding of **customer behavior** and **business performance** , while applying my passion for using data to uncover meaningful insights that help **businesses act smarter and plan better.**

I've developed strong skills in attention to detail, **efficient resource management**, and quick **problem-solving**

As a Data Analyst with over **10 years of experience in the hospitality** and restaurant industry, I bring a solid foundation in **SQL, Excel, Python, and Tableau** and focus on **interpreting and visualizing key information** to deliver data-driven insights using Business Intelligence tools that support strategic decision-making.

PORTFOLIO OVERVIEW

CASE STUDIES & TOOLS.



Case 1. GameCo. Revision to Global Sales.

Excel, Power Point.

Case 2. Preparing for Influenza Season.

Tableau, Excel.

Case 3. Rockbuster Stealth.

SQL, Excel, Tableau , Power Point.

Case 4. Instacart Basket Analysis.

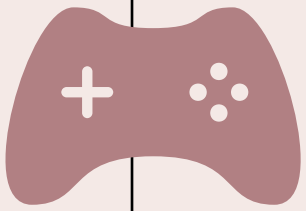
Python, Excel.

Case 5. Pig.E Bank Churn Prediction.

Excel.

Case 6. Retail Analysis.

Python, Tableau.



CASE 1.

GAME CO.

REVISION TO GLOBAL SALES & TRENDS

Background.

GameCo. currently assumes that the distribution of sales across geographic regions has remained consistent over time.

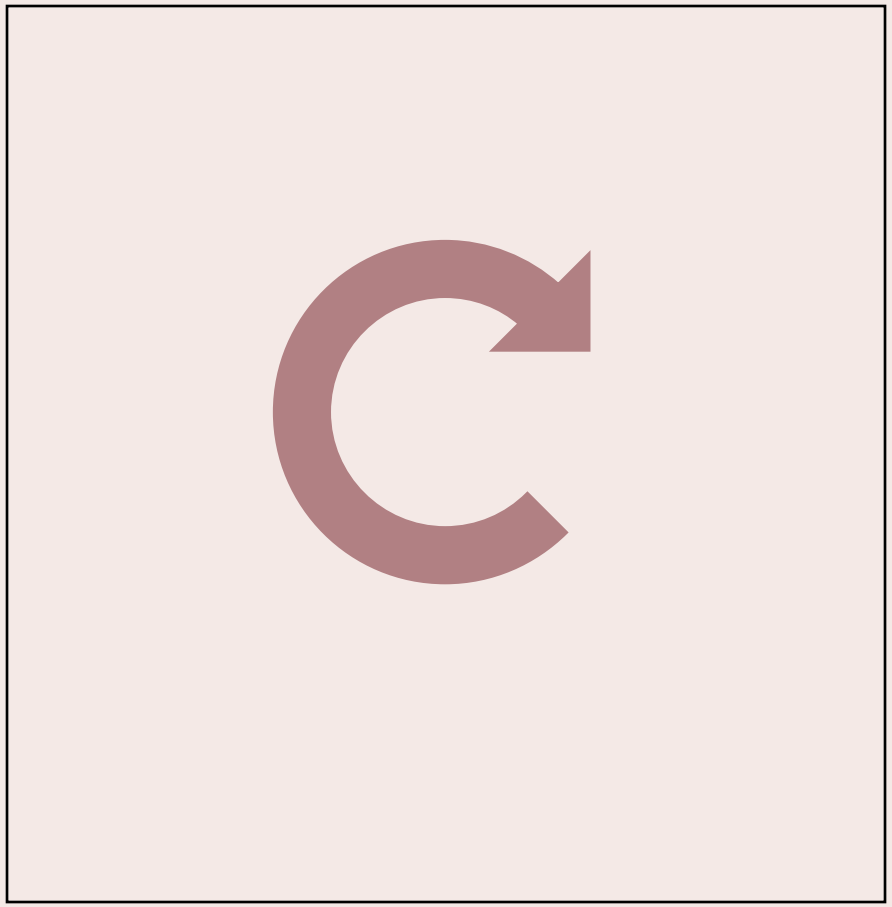
Data Set.

This project uses the Video Game Sales with Ratings dataset. The data aggregates video game sales by platform, region, and genre.

Data. Video Game Sales with Ratings.

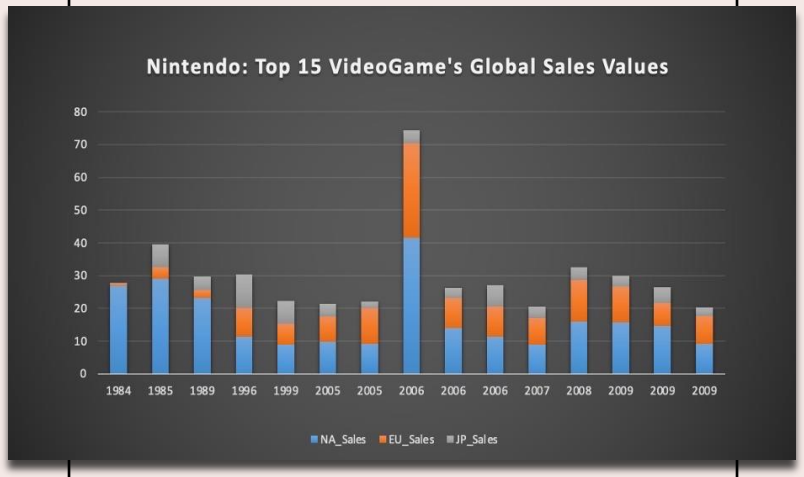
Source. Gregory Rutledge, via Kaggle.

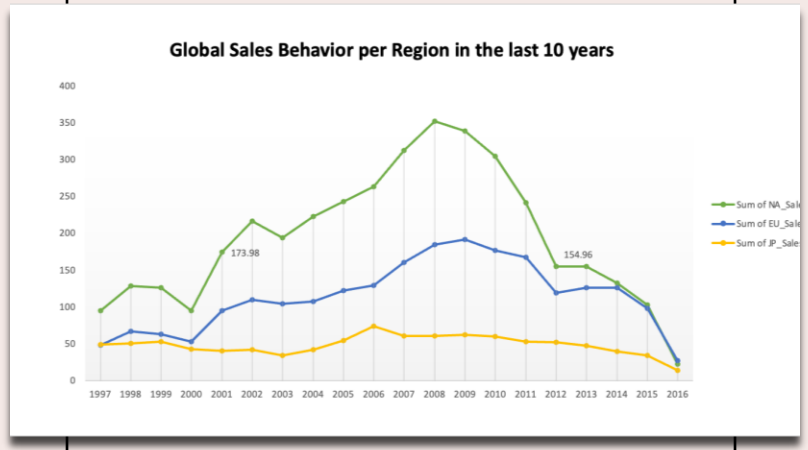
Originally Compiled From. VGChartz.com



ANALYSIS & KEY QUESTIONS

- Has the regional distribution of sales remained consistent over time?
- Which regions have experienced significant changes in their share of global sales?
- What trends can be observed in each region (e.g., North America, Europe, Japan) over time?





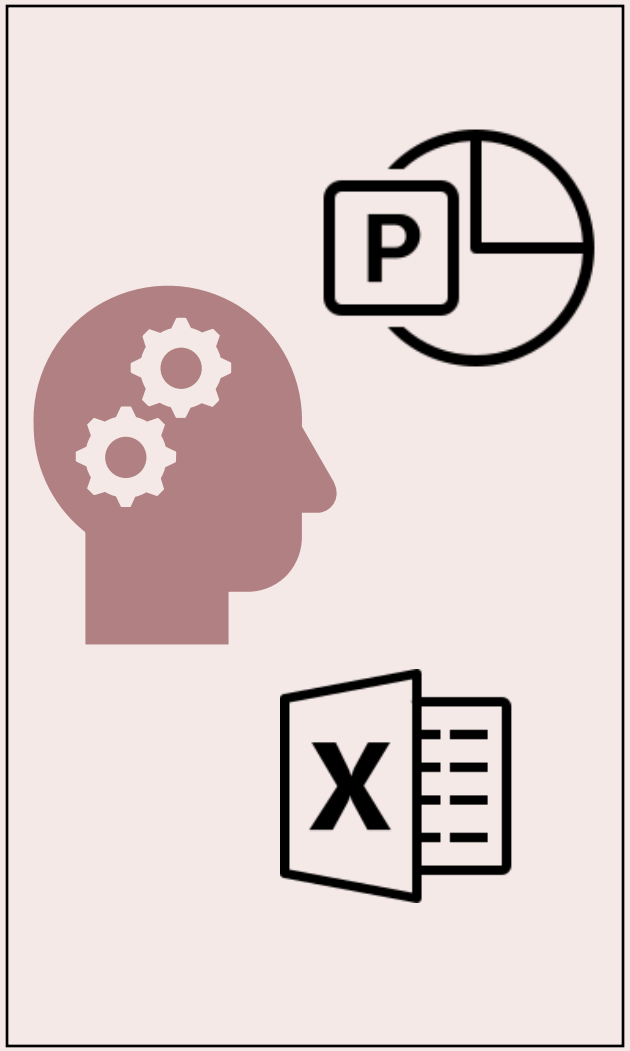
INSIGHTS & RECOMMENDATIONS

1) North America: Market Reactiveness and Nintendo's Impact

2) Europe: A Stable and Reliable Contributor to Global Sales

3) Global Sales Decline: Return to Early 2000s Levels After 2010 Surge

- **Redistributing the 2017 marketing budget** toward the European market is recommended, given its steady growth.
- **Europe** appears to follow North America's trends as a "second wave," but with less dramatic fluctuations, making it a **safer market for investment.**
- To recover from the recent global sales drop, it would be beneficial to analyze and apply strategies behind record sales periods—such as **Nintendo's success in 2016** and the global sales peak in 2008—to **reignite growth**.



SKILLS & TOOLS

Tools.

Excel, Power Point.

Analysis.

Descriptive Analysis

Insight-driven Strategic Analysis

Exploratory Data Analysis (EDA)

Trend Analysis.

Skills Applied.

- Data Cleaning & Preparation
- Data Grouping & Summarization
- Pivot Tables & Calculated Fields
- Exploratory Data Analysis (EDA)
- Statistical Trend Analysis
- Data Visualization
- Insight Generation & Business Recommendations

CASE 2.

PREPARING FOR INFLUENZA SEASON.

Background.

Influenza (flu) season in the United States causes a significant increase in hospital visits, especially among vulnerable populations. This surge creates a higher demand for medical staff in hospitals and clinics. This project aims to analyze historical flu trends to help the agency plan and allocate staff efficiently across all 50 states during the flu season.

Data Set.

- **Data :** Influenza Deaths by Geography
Source: Centers for Disease Control and Prevention (CDC)
Description: Covers data from 2009 to 2017, including State, State Code, Month, Year, Age Groups and their codes, and Deaths. Provided by a trusted US government agency, making the data reliable and relevant for the project.

- **Data :** Population Data
Source: U.S. Census Bureau
Description: Provides population counts from 2009 to 2017, classified by gender, time, and age groups segmented in 5-year ranges. Collected using manual and automated methods by a US government agency.

KEY QUESTIONS & HYPOTHESIS

1. When and where does flu season typically peak across U.S. states?

2. How might vaccination rates influence staffing requirements?

3. Do states with larger vulnerable populations show higher flu-related death rates?

4. How consistent are flu trends year to year?

Hypothesis:

*States with **higher populations of vulnerable individuals** (under 5 and over 65) will experience higher influenza-related mortality rates. **These states will require proportionally more temporary medical** staff during flu season.*

PREPARING FOR INFLUENZA SEASON

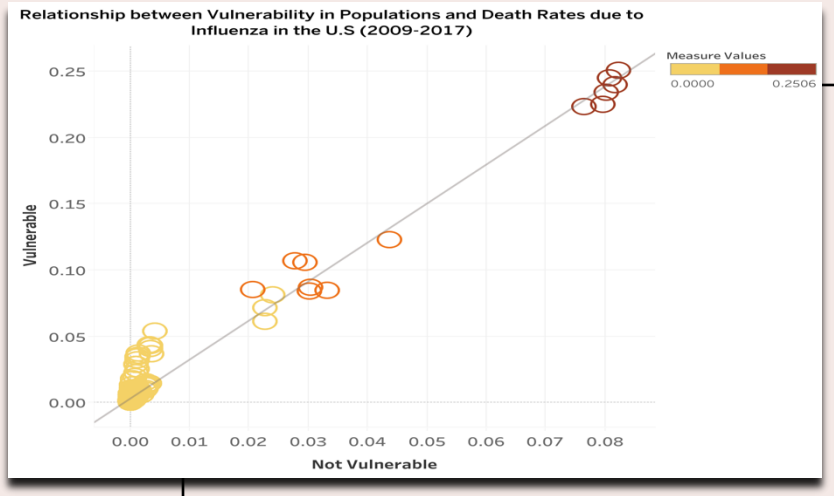
Proportional Deaths
5,000
20,000
40,000
57,162

Total population
16,210
21,628,324

Total Deaths
660
6,536

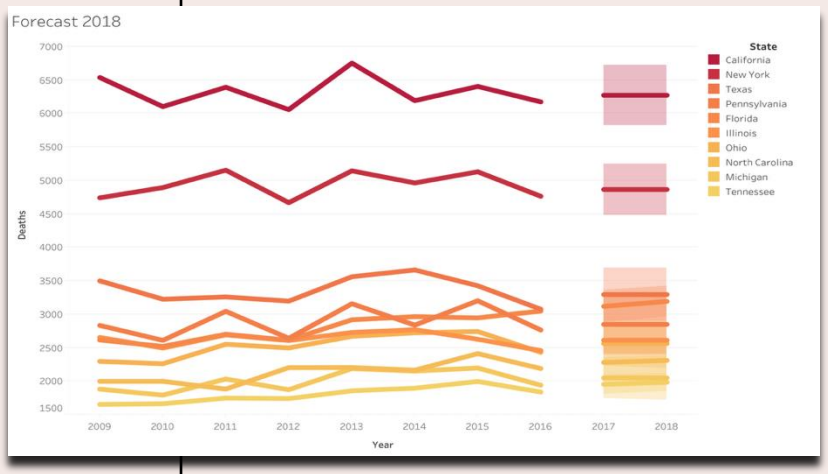
INSIGHTS & RECOMMENDATIONS.

1) Strong Link Between Vulnerability and Flu Mortality:
States with higher proportions of vulnerable populations (children under 5 and adults over 65) show significantly higher flu death rates.
Correlation coefficient: 0.98
p-value: < 0.00001 → statistically significant

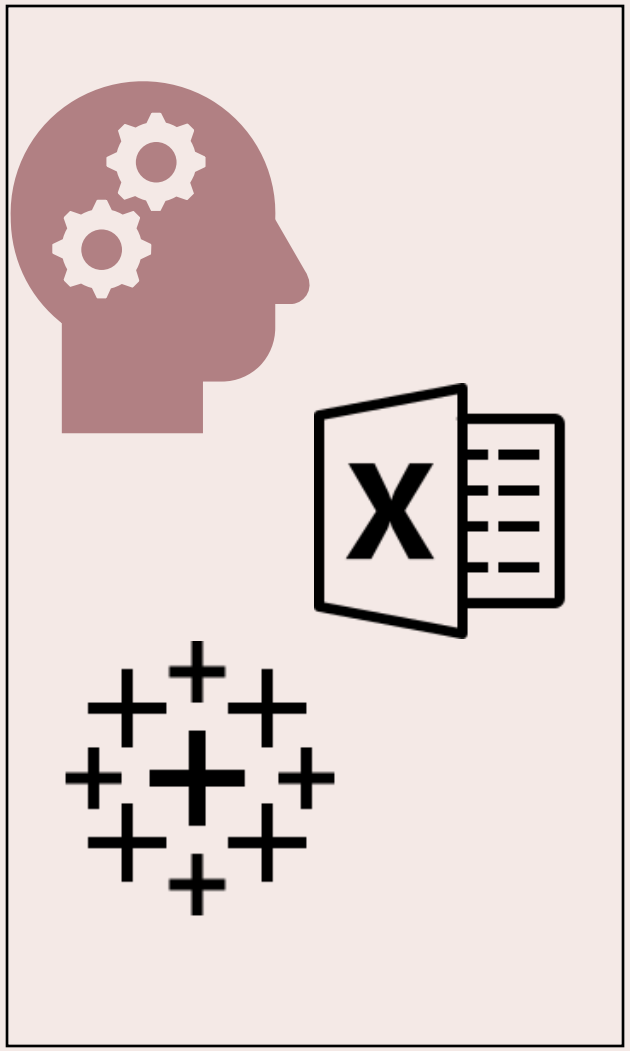


Recommendations.

- **Prioritize** staffing in states with **highly vulnerable populations** and during peak flu months (mainly winter).
- **Use forecasts** to **plan staff deployment ahead** of peak influenza periods.
- Monitor **staff-to-patient ratios** and adjust assignments as the season progresses.
- **Collect feedback** and evaluate performance after flu season to improve future staffing strategies.



2) Seasonality Patterns Are Predictable:
Flu deaths consistently spike in the winter months, allowing for strategic forecasting of staff needs. Forecasts for 2018 indicate California and New York as top staffing priorities.



SKILLS & TOOLS

Tools.

Excel
Tableau

Analysis.

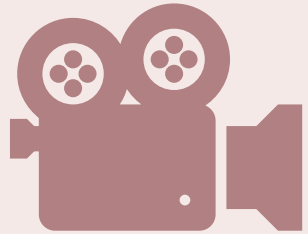
Descriptive Analysis
Correlation Analysis
Inferential
Predictive/Trend Analysis

Skills Applied.

- Data Cleaning & Preparation
- Statistical Analysis & Hypothesis Testing
- Correlation & Trend Analysis
- Data Visualization (Tableau, Maps, Charts)
- Exploratory Data Analysis (EDA)
- Insight Generation & Business Recommendations
- Stakeholder Communication & Presentation
- Domain Knowledge in Public Health & Influenza

CASE 3.

ROCKBUSTER STEALTH ANALYSIS PROJECT.



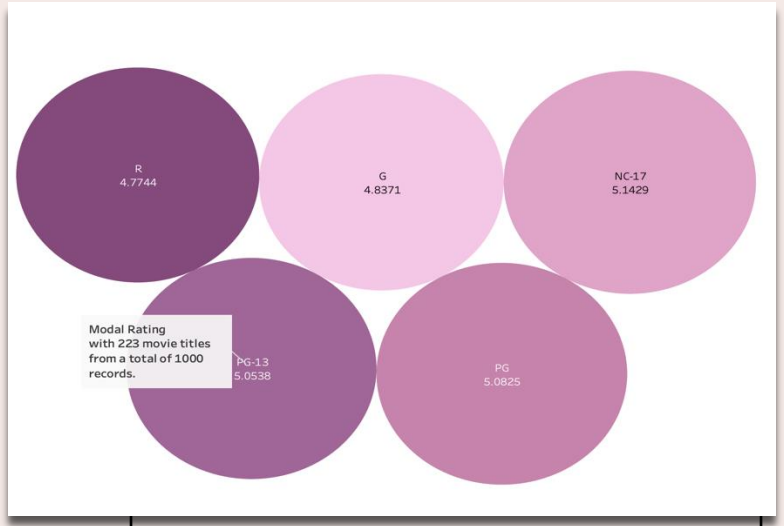
Background.

Rockbuster Stealth LLC is a **former global movie rental company** transitioning to an online streaming platform to stay competitive against services like Netflix and Amazon Prime. The main objective is to **help inform strategy** for the launch using internal customer and sales data.

Data set.

Data: Rockbuster Stealth Film & Customer Database.
Source: CareerFoundry (Provided via course materials).
Description: Includes information on film inventory, rental transactions, payments, store locations, and customer demographics.

*Rockbuster's average rental time by rating per customer.



Numerical and Non numerical values .

	Modal Create Date / Modal Rating February 14, 2006 PG-13
Modal Active	1
Modal Customer Id	1
Modal Language Id	1
Modal Store Id	1

	Metric		
Category	Min	Max	Avg
Release Year	2006	2006	2006
Rental Duration	3	7	4,985
Rental Rate	0,99	4,99	2,98
Replacement Cost	9,99	29,99	19,984

*Modal language Id corresponds to English.
** Only releases and data entries from 2006.
*** Values taken from a total of 599 customers

KEY QUESTIONS.

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

INSIGHTS & RECOMMENDATIONS.

1. Sales figures vary between regions in relation to the number of customers that we have on each being approximately around 0.9%

2. Based on our catalog our best performance categories are Sports and Animation with an average of $12k. Followed by Action, Thriller and Sci-Fi.

3. Our customers are based in a total of 599 countries around the world being India and China the highest revenue.

4. The average replacement cost of our movies is $19.99

5. The average modal rental duration of all movies was the PG-13 category with 5.8 days of rental in average

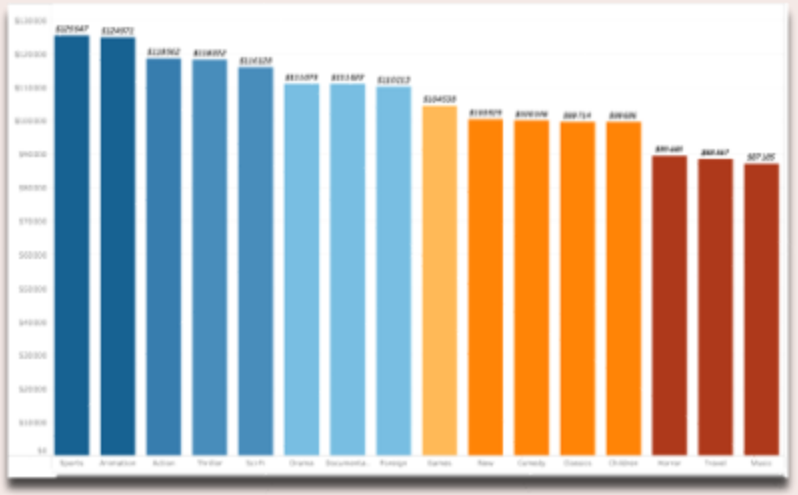
6. The least popular categories are Travel and Music

7. Our catalog have mostly movies in English

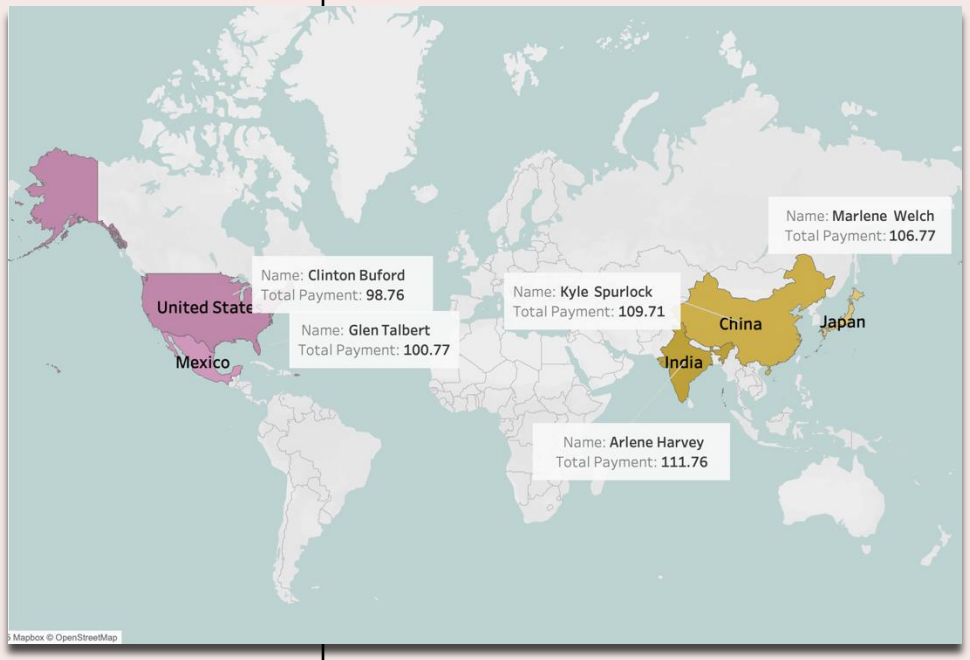
8. The highest spending customers are in USA, India, China, Mexico and Japan

9. Netflix and Amazon had a progressive evolution towards streaming services.

*Top 10 Countries.



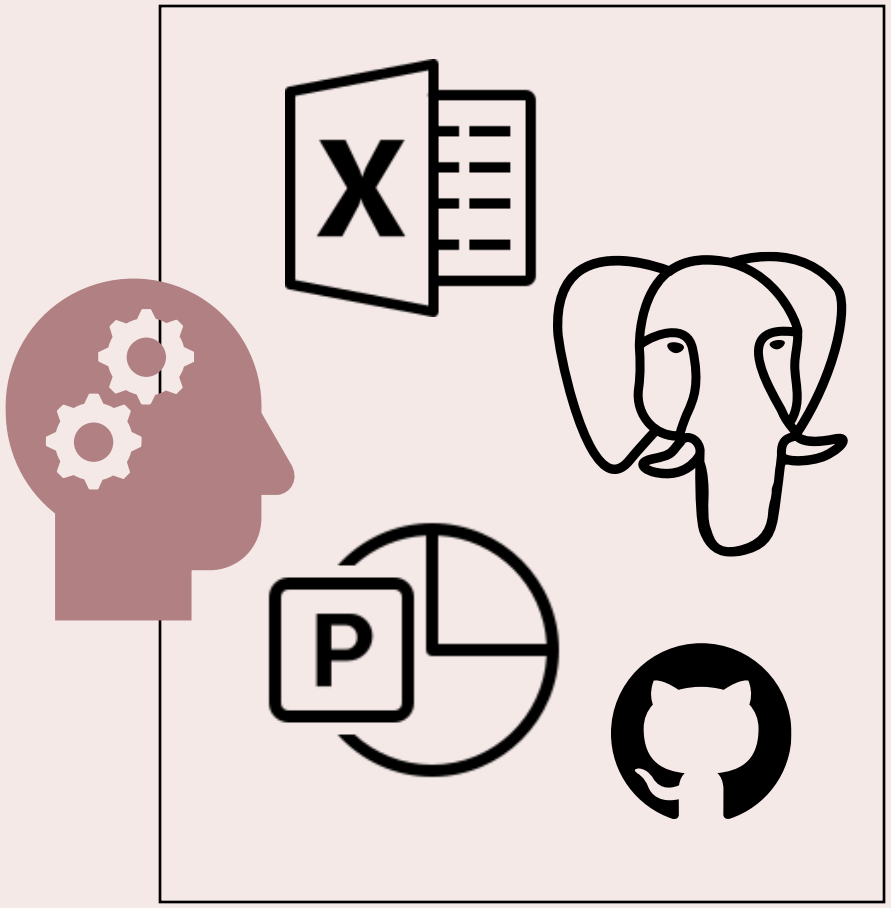
**Movie category catalog.



Global Top 5 customer Loyalty.

INSIGHTS & RECOMMENDATIONS.

- **Target Marketing campaigns** by considering number of customers per region and their preferences.
- **Data driven expansion** by creating a monitoring system that can eventually customer choices as a cross- analyzed data.
- **Develop content diversification** , by expanding the current 16 genre library.
- **Track user behavior closely** by a cross-analyzed data monitoring system (renting/streaming watching)
- **Launch pilot platform and hybrid system** (video/ streaming program.



SKILLS & TOOLS.

Tools.

PostgreSQL
Microsoft Excel
Power Point
GitHub

Analysis.

Exploratory & Descriptive Analysis.
Revenue Contribution Analysis
Rental Pattern Analysis
Geographic Distribution Analysis
Regional Sales Analysis

Skills Applied.

- Data Cleaning & Preparation
- SQL Querying & Optimization
- Data Aggregation & Joins
- Exploratory Data Analysis (EDA)
- Business Insight Generation
- Strategic Recommendation Development

CASE 4.

INSTACART GROCERY BASKET ANALYSIS.

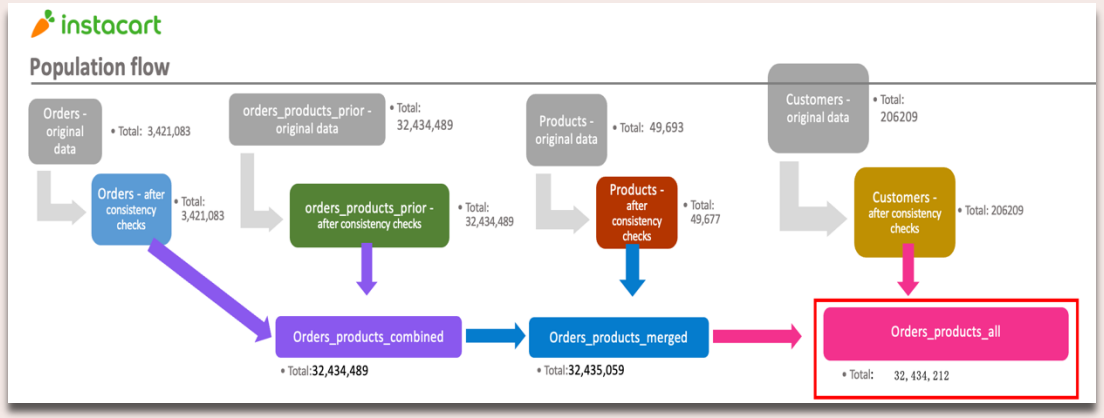
Background.

Instacart is an online grocery delivery company seeking to better understand customer purchasing patterns to improve their targeted marketing strategies. The project consisted conducting an exploratory data analysis to uncover insights related to shopping habits, customer segmentation, and product demand.

Data Set.

Multiple open-source data sets from Instacart, including customer profiles, order history, product data, and department classifications.
Source: Instacart via Kaggle
Citation: "The Instacart Online Grocery Shopping Dataset 2017", Accessed from www.instacart.com/datasets/grocery-shopping-2017

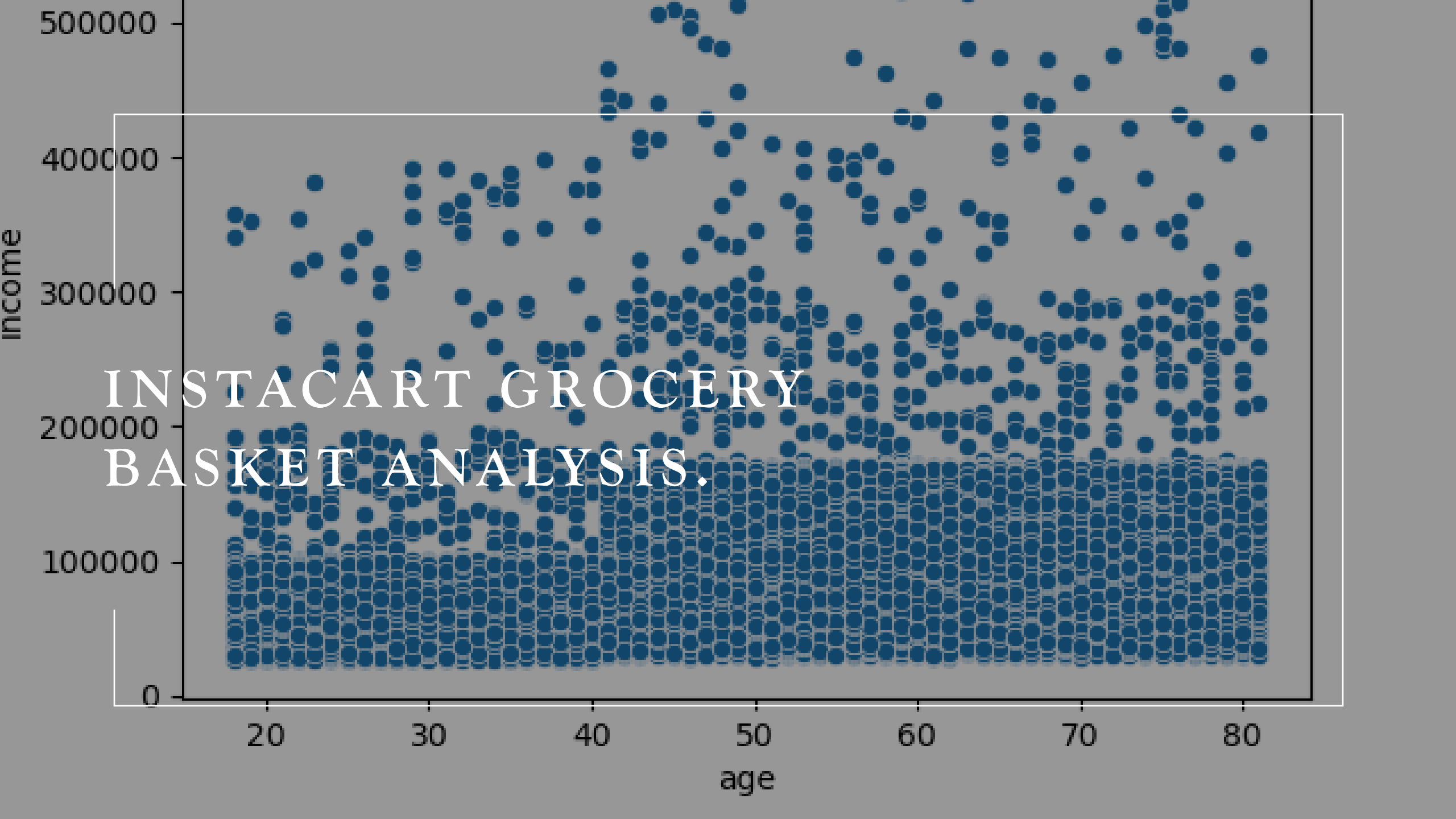
KEY QUESTIONS.



**Population Flow: Description of the data set.

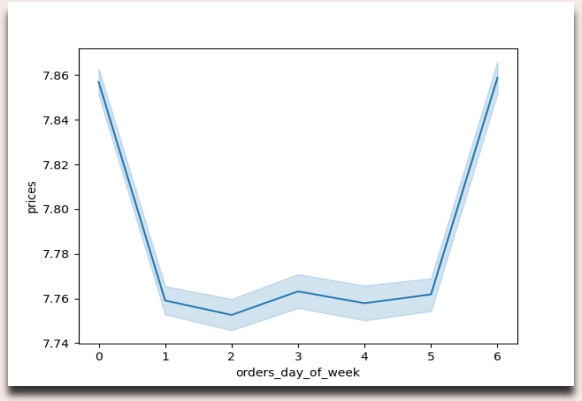
- What are the **busiest days** and hours for orders?
- **When** do customers spend the most money?
- What **product price ranges** are most common?
- Which **product categories** (departments) are most popular?
- What are the **behavioral differences** between **customer segments**.

INSTACART GROCERY BASKET ANALYSIS.



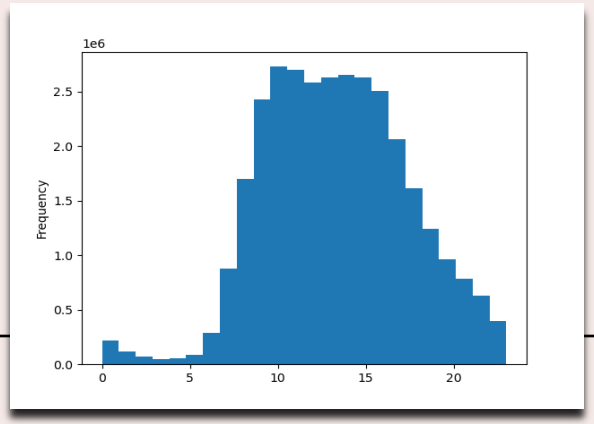
INSIGHTS & RECOMMENDATIONS.

1.a



1a. **Sunday and Monday** are the busiest days for orders. Weekend spending is highest, suggesting customers place larger orders when they have more time.

1.b

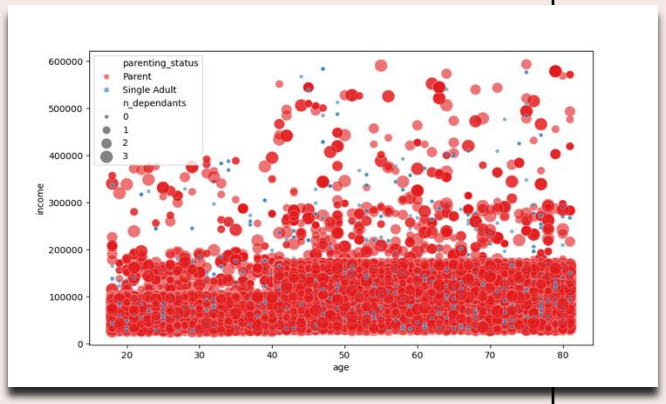


1b. Order frequency peaks **between 6 AM and 10 AM**, dips slightly around lunchtime, and remains steady until 3 PM.

2. **Most Popular Departments**
- Produce
- Dairy & Eggs
- Snacks
- Beverages
- Frozen

3. **Parents tend to order more frequently** and spend more per dependent compared to single adults.

3.



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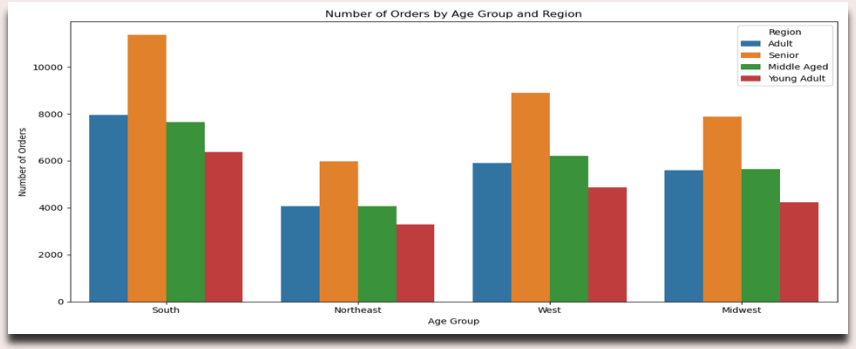


4. **Seniors generally order most frequently**, especially in the south, while the age group that orders the least is found in the northeast region.

5. **Loyalty Distribution**
- Most are Regular customers. Indicates strong return behavior, but opportunity to nurture new users into regulars.

6. **Loyalty & Spending Patterns**
- Order less frequently
- Spend more per order

INSIGHTS & RECOMMENDATIONS.

1. Suggest prioritizing inventory, promotions, and visibility for these categories.

2. Suggest age-group-based campaigns.

3. Prioritize in retention and loyalty programs

4. Schedule ads/promotions during low-traffic hours to boost activity.
Run campaigns or upsell strategies on slower days to balance demand.
Promoting higher-ticket products on these days.

5. Considering target premium products or bundles during high-spend hours.

6. Regional campaigns could emphasize top departments by zone.

7. Budget and premium segments can be targeted with personalized recommendations.

SKILLS & TOOLS.

Tools.

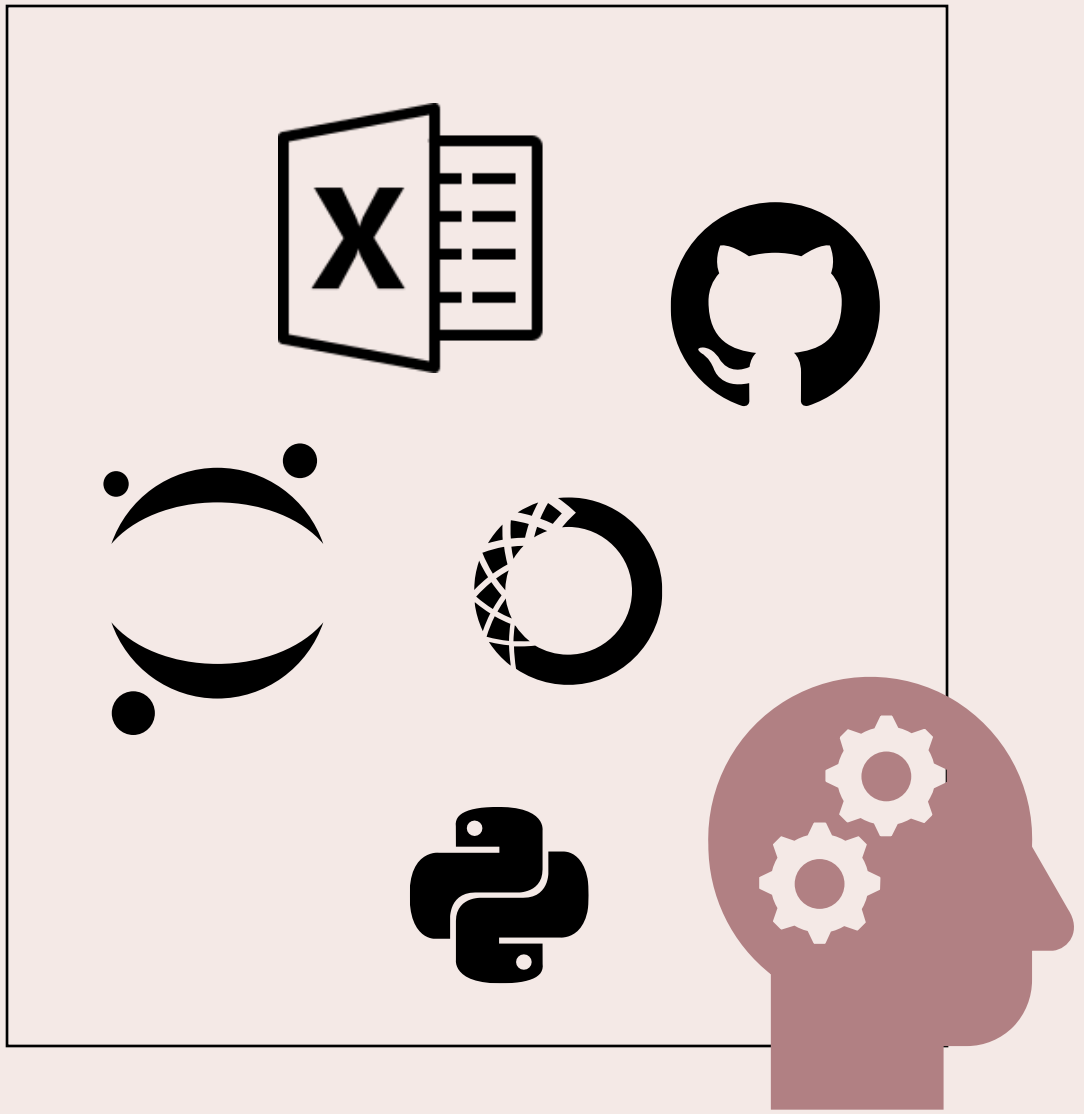
Python (pandas, NumPy, matplotlib, seaborn)
Jupyter Notebooks
Excel
GitHub

Analysis.

Exploratory Data Analysis (EDA)
Customer Segmentation Analysis

Skills Applied.

- Exploratory Data Analysis (EDA)
- Customer Segmentation
- Behavioral Trend Analysis
- Statistical Analysis
- Insight Generation & Reporting
- Market Basket Analysis



CASE 5.

PIG E. BANK CHURN PREDICTION.

Background.

The bank wants to **reduce customer churn** by understanding which factors or behaviors can predict if a customer is at risk of leaving.

Data Set.

Includes customer demographics, financial information, product usage, activity status, and tenure, allowing the bank to compare behaviors of leavers vs. non-leavers and identify key factors that contribute to customer churn.
This data set was provided by CareerFoundry.

KEY QUESTIONS.

WHAT PATTERNS INDICATE HIGH-RISK CLIENTS OR TRANSACTIONS?

ARE THERE ETHICAL CONCERNS IN HOW THE DATA IS COLLECTED OR USED?

HOW CAN PREDICTIVE MODELS IMPROVE COMPLIANCE MONITORING?

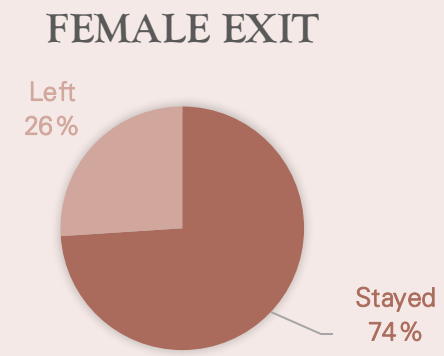
WHAT TRENDS CAN TIME-SERIES REVEAL?

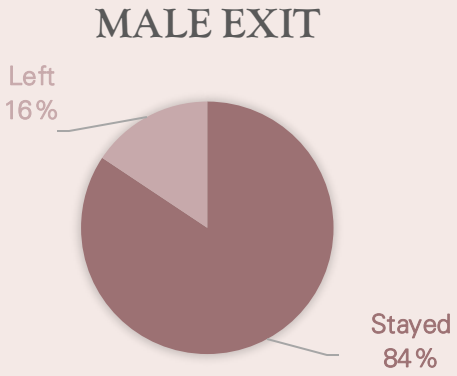
INSIGHTS & RECOMMENDATIONS.

Metric	Stayed (0)	Left (1)	Comment
Average Age	38	45	Leavers are older
Average Balance	$74,534.60	$90,030.75	Leavers have a higher Balance
Average Number Of Products	2	1	Leavers have less number of products
Average Estimated Salary	$98,858.48	$97,303.52	Leavers have a lower average of salary
Average Credit Score	652	637	Leavers have lower credit scores
Count by Gender Female	74%	26%	Leavers are 26% of woman
Count by Gender Male	84%	16%	Leavers are 16% of men
Count Active Member	88%	12%	Inactive members tend to leave more
Count Inactive Member	71%	29%	
Tenure 0	84%	16%	Leavers tend mostly to leave after 1 or 2years
Tenure 1	71%	29%	
Tenure 2	75%	25%	
Tenure 3	80%	20%	
Tenure 4	80%	20%	
Tenure 5	80%	20%	
Tenure 6	78%	22%	
Tenure 7	84%	16%	
Tenure 8	82%	18%	
Tenure 9	81%	19%	
Tenure 10	86%	14%	

Key Risk Factors.

1. **Low product engagement.** Indicates low engagement, the fewer products a customer uses, the more likely they are to leave.
2. **High account balances.** High-value customers leaving is a serious retention concern.
3. **Inactivity.** Inactive members are more likely to leave: 29% of inactive members left vs. only 12% of active members.
4. **Older age.** Older customers may be more likely to switch banks or close accounts.
5. **Low credit scores.** May signal financial stress or riskier profiles more likely to churn.



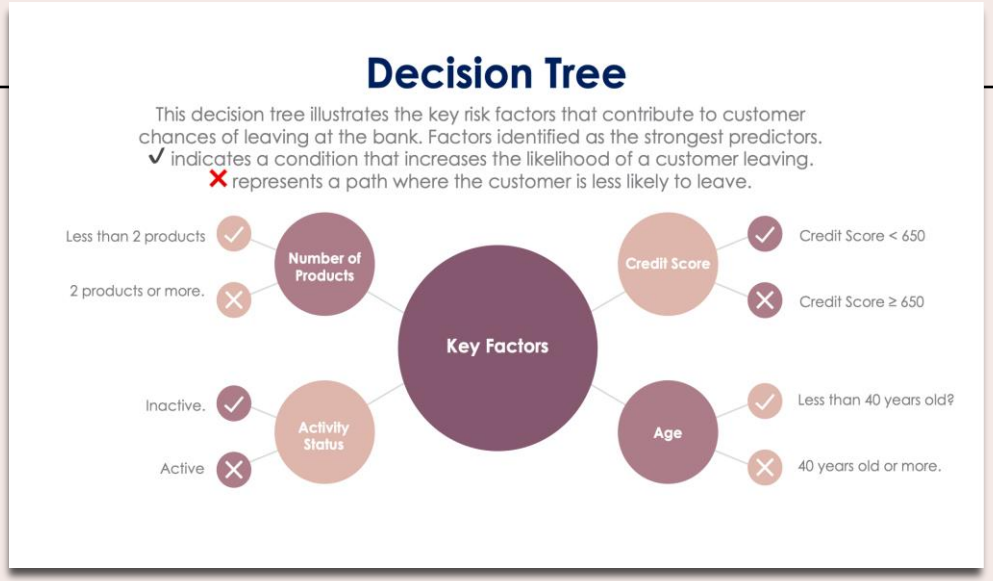


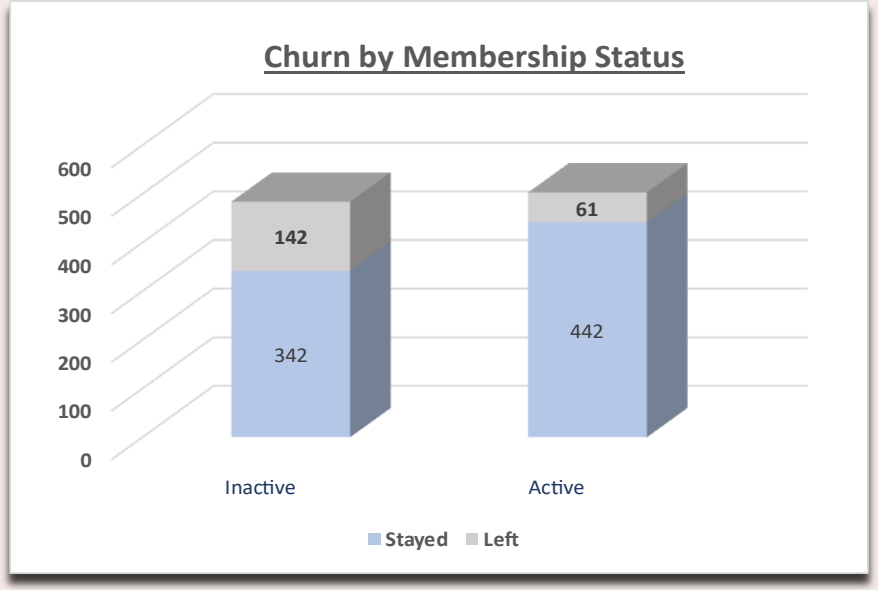
INSIGHTS & RECOMMENDATIONS.

Additional Observations.

- **Gender.** 26% of females left vs. 16% of males. Female clients show slightly higher leaves
- **Salary.** Slightly lower average salary for leavers, but not a major factor.
- **Tenure.** Higher leaves among customers with 1–2 years of tenure. Suggests the risk of leaving is higher in the early years of contract.

INSIGHTS & RECOMMENDATIONS.

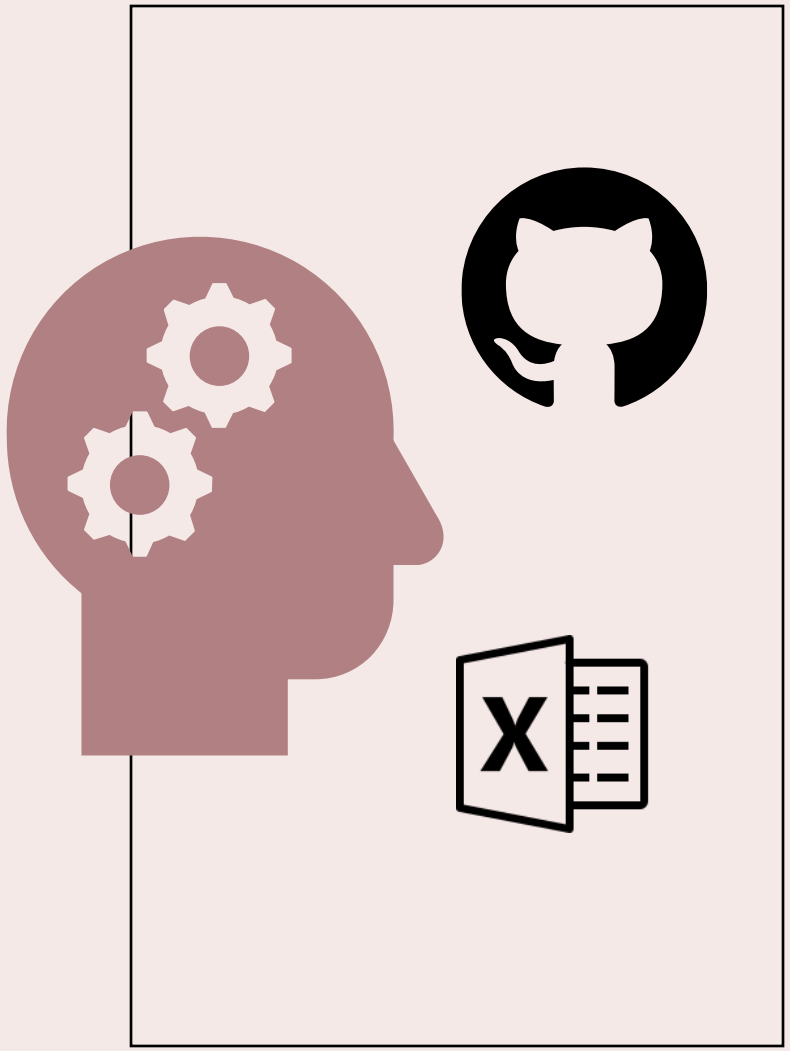




*Inactive that left corresponds to the 29% of total.

**Active that left are corresponds to the 12% of total.

1. **Develop Retention Strategies for Older Customers.**
2. **Encourage Multi-Product Usage.**
3. **Introduce re-engagement campaigns** for inactive users (personalized emails, benefits for account activity).
4. **Monitor Early-Tenure Customers Closely.** Conduct satisfaction surveys or check-ins at 3, 6, and 12 months to resolve issues early.
5. **Investigate gender-specific** reasons for churn.



SKILLS & TOOLS.

Tools.

•Excel
•GitHub

Analysis.

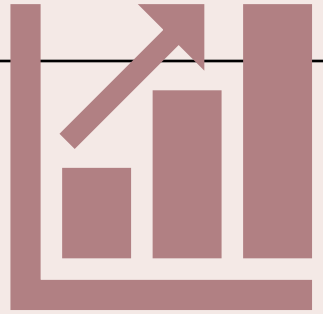
Data mining
Descriptive Analytics
Ethical evaluation of data practices

Skills Applied.

- Data analysis
- Predictive modeling
- Time-series forecasting
- Data mining
- Ethical reasoning and decision-making
- Communication and collaboration

CASE 6.

RETAIL ANALYSIS.



Background

The retail company aims to improve customer retention and revenue by understanding purchasing behavior across different segments. Through **customer profiling and behavioral analysis**, the business can implement targeted marketing **strategies**, loyalty initiatives, and re-engagement **campaigns that align with customer needs and spending patterns.**

Data Set

The dataset includes detailed customer transaction records, demographic attributes, product-level purchase data, ratings, shipping preferences, and brand/category details. This enables a full analysis of customer value, loyalty, and behavioral trends across global regions. **The dataset used was originally sourced from Kaggle – Retail Analysis Dataset by Sahil Prajapati, and a representative subset of ~500,000 rows was selected for analysis.**

KEY QUESTIONS.

Which customer segments contribute the most to total revenue?

How do product preferences and ratings vary across clusters?

What brands and regions show the highest purchasing activity?

Are there behavioral patterns linked to high or low spending?

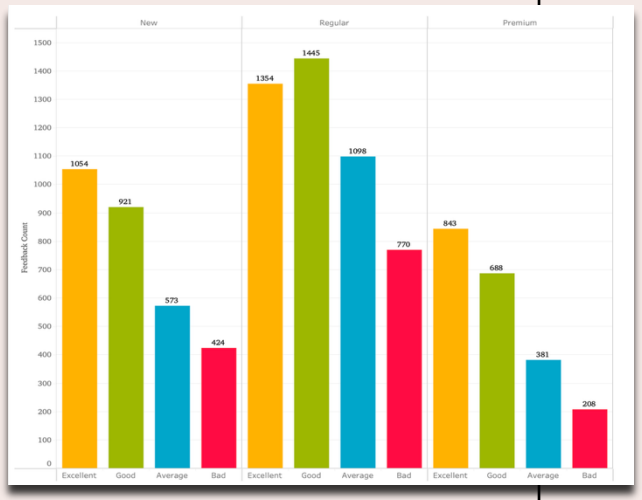
Can we predict customer value based on their purchase behavior?

What marketing strategies best fit each customer cluster?

INSIGHTS & RECOMMENDATIONS: CUSTOMER SEGMENTS & BRAND OVERVIEW.

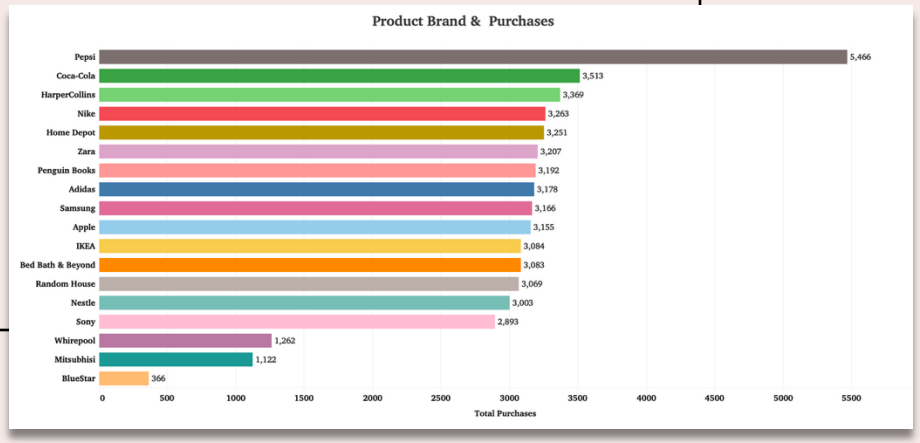
1. Customer Segments & Feedback

Regular customers provide the most feedback, indicating strong engagement and highest spending. **Average feedback ratings are neutral to positive** (3+ across all categories).

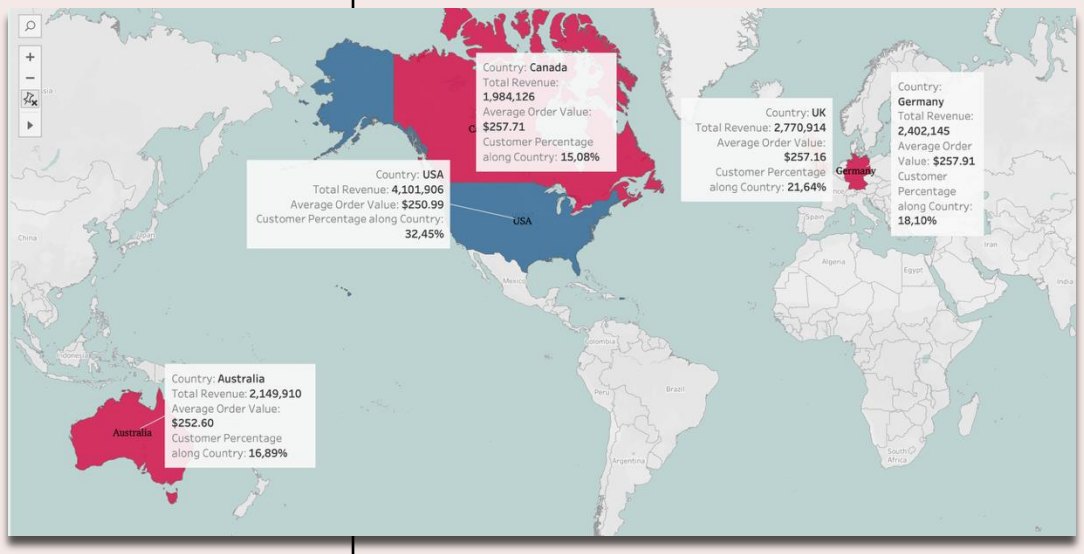


2. Top Brands by Total Purchases

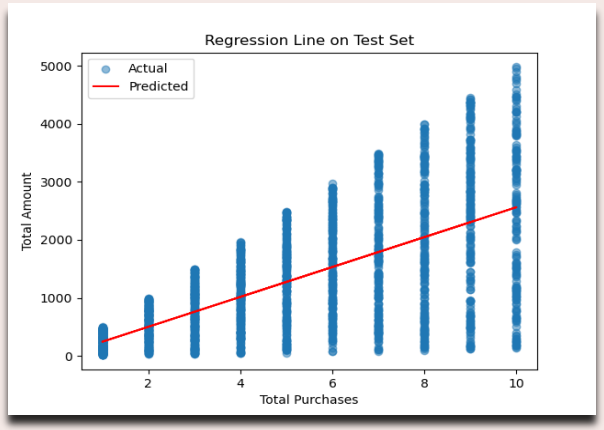
Pepsi leads with 5,466 purchases, followed by Coca-Cola (3,513) and Harper Collins (3,369). Apparel (Nike, Zara), home improvement (Home Depot), and publishing brands (Penguin Books) also **have strong purchase numbers.**

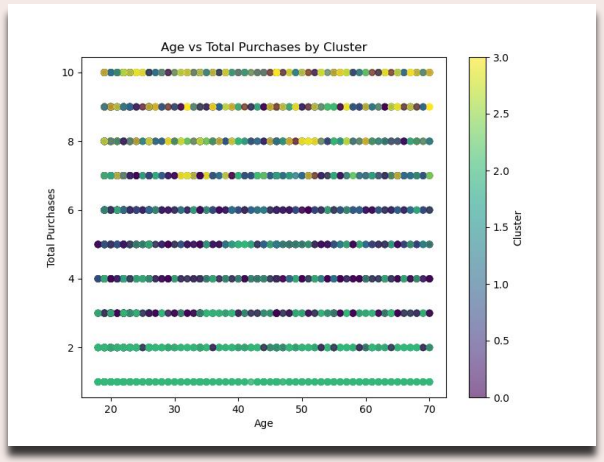


GEOGRAPHIC & DEMOGRAPHIC INSIGHTS.



1. **USA** holds **32%** of customers, leading revenue generation; UK, Canada, and Australia follow.
2. Germany, despite fewer customers, **has the highest average order value (AOV).**
3. **Premium and Regular** customers cluster more in USA/UK; New customers more prevalent in emerging markets.
4. **Positive feedback** higher in Australia and UK, suggesting better satisfaction or brand affinity.





PREDICTIVE MODELING & CLUSTER ANALYSIS,

1. Linear regression shows a **positive correlation** between **purchases and spending** ($R^2 \approx 40\%$). Other factors like income and pricing affect spending too.

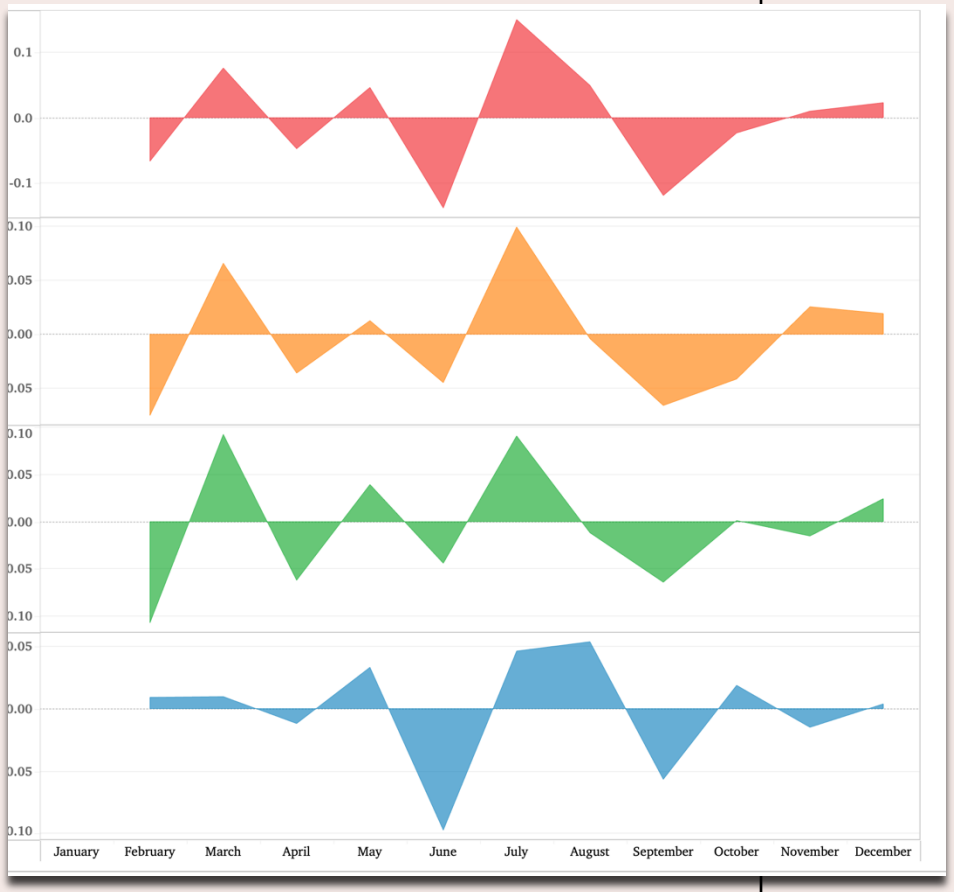
2. **Age and rating** have low influence on clusters, emphasizing purchase behavior as **key segmentation drivers.**

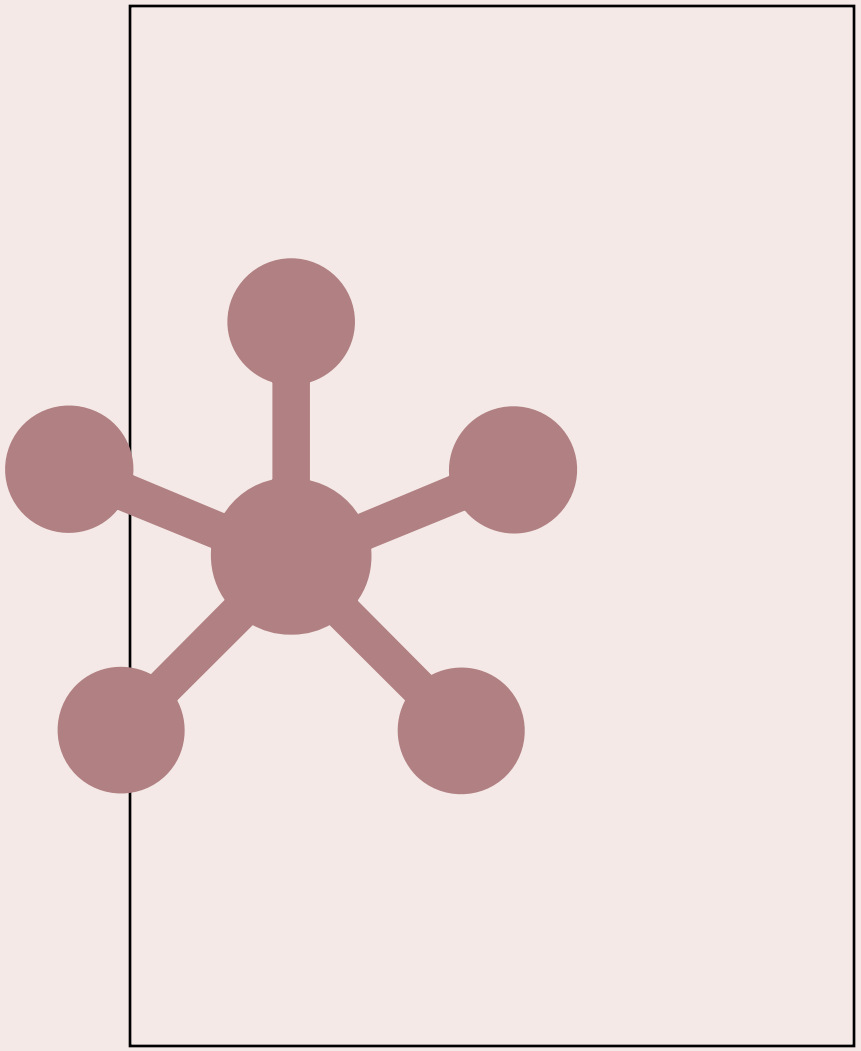
Cluster Profiles:

- Cluster 0: Medium purchases (5.5), spend ($1,286), age ~35
- Cluster 1: High purchases (7.2), spend ($2,359), age ~36
- Cluster 2: Low purchases (3.6), spend ($393), age ~35
- Cluster 3: Highest purchases (8.9), spend ($3,715), age ~36

REVENUE & PURCHASE TRENDS OVER TIME,

- Revenue peaked in **July 2023 (+14.95%)**, recovering after June decline **(-13.76%)**. Overall, a slight downward revenue trend **(-0.32%).**
- Purchases and customer volume **show seasonality with peaks in July and drops in Feb 2024**, possibly due to promotions or churn.
- **Average Order Value remains stable**, suggesting volume drives revenue changes more than price changes.
- Clear **6-month seasonality patterns** linked to holidays or promotions.





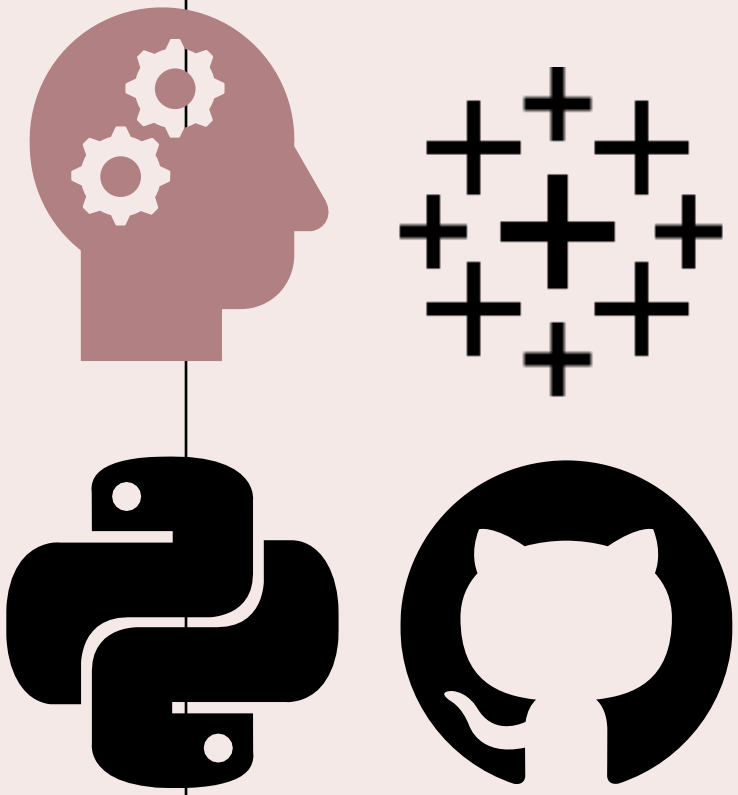
RECOMMENDATIONS & NEXT STEPS.

1. Strategic Actions by Cluster:

- **Cluster 3 (High spenders):** Loyalty or VIP rewards to retain and deepen engagement.
- **Cluster 1 (Active regulars):** Upselling premium products and exclusive offers.
- **Cluster 0 (Moderate buyers):** Seasonal promotions and discounts to increase purchase frequency.
- **Cluster 2 (Low spenders):** Re-engagement campaigns like personalized outreach or onboarding.

2. Additional Recommendations:

- **Leverage brand insights** to tailor marketing and inventory decisions.
- Use geographic patterns to customize **regional strategies**.
- Exploit **seasonal trends** for timed campaigns and forecasting.
- **Refine predictive models** by incorporating income, pricing, and promotions data.



SKILLS & TOOLS.

Tools.

Tableau
Python (Jupyter Notebook)

Analysis.

Data mining
Descriptive analytics
Predictive modeling
Time-series decomposition and forecasting
Customer segmentation (KMeans clustering)

Skills Applied.

Data analysis
Predictive modeling
Time-series forecasting
Customer segmentation
Communication and visual storytelling
Ethical reasoning and decision-making

CONTACT.

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