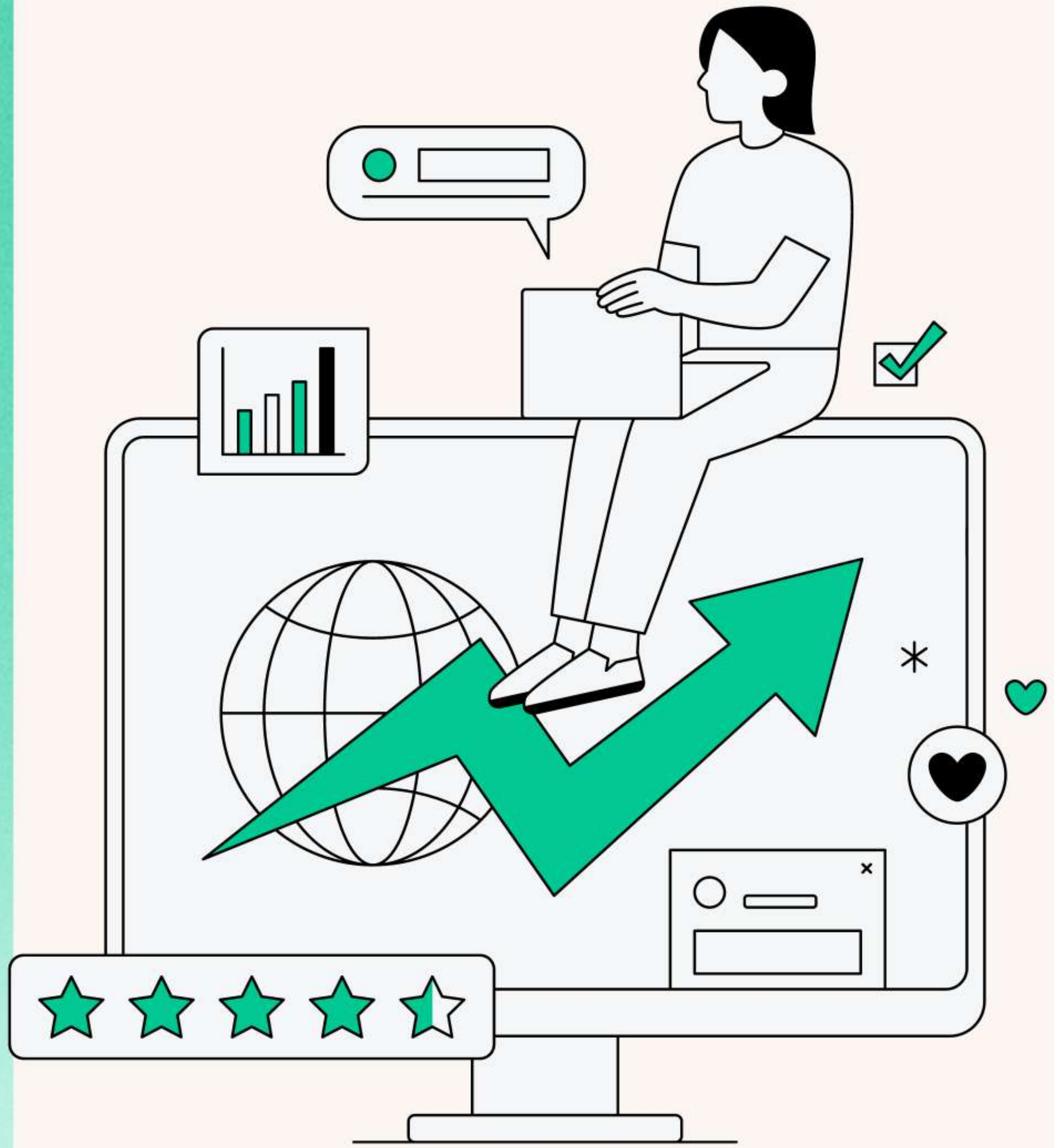
Presented by Trend Setters

Optimizing Customer Experience and Sales at OmniMart Retailers

Trends and challenges



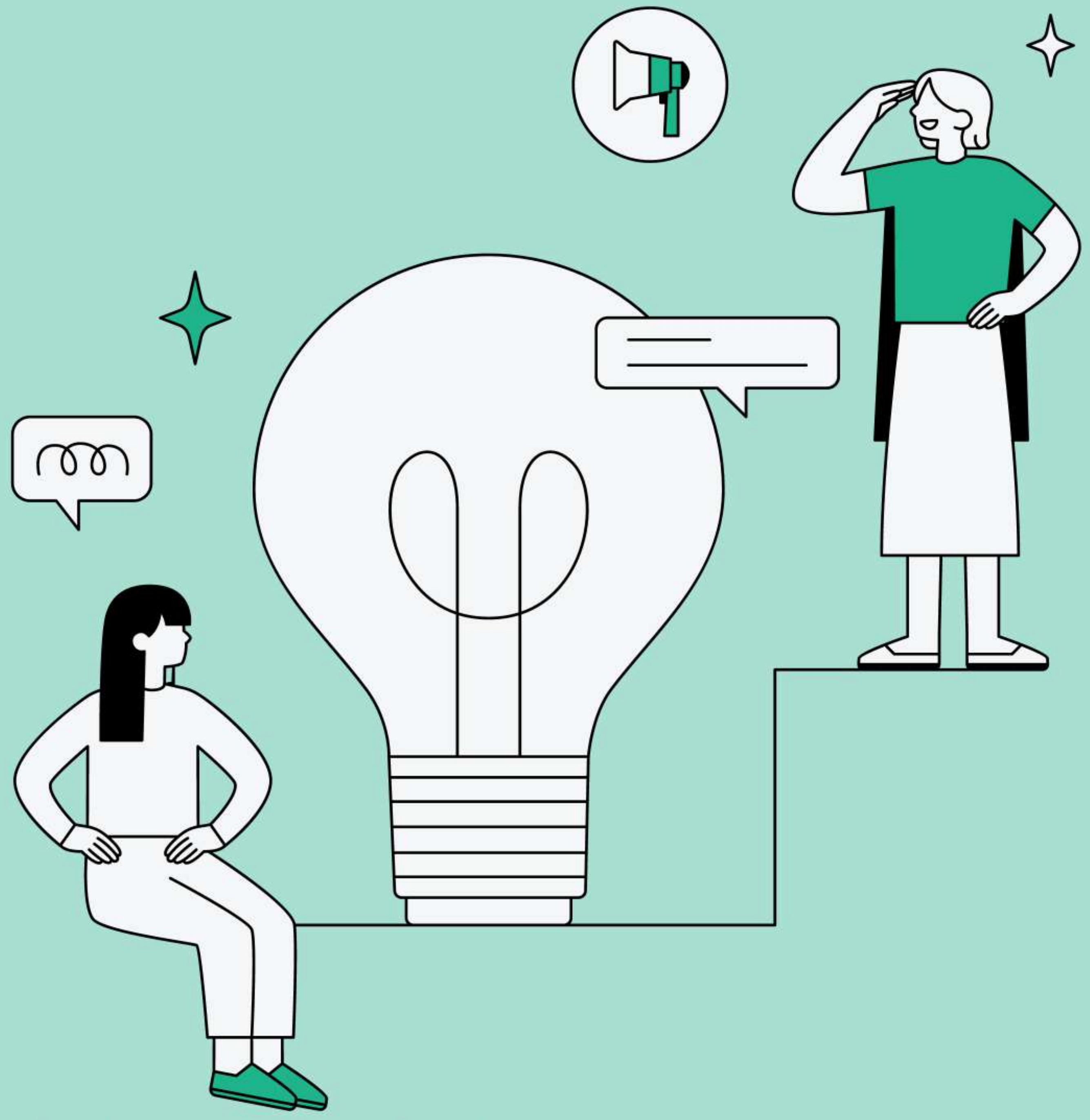
OmniMart Retailers

Problem Statement Summary:

OmniMart Retailers, a multinational company, wants to better understand its customer base to improve sales, increase retention, and optimize marketing. You are tasked with performing an Exploratory Data Analysis (EDA) on a provided dataset to find actionable insights and identify growth opportunities.

Important Points:

- Goal: Gain a deeper understanding of the customer base.
- Methodology: Conduct a comprehensive Exploratory Data Analysis (EDA).
- Outcome: Prepare a detailed report or presentation with data-driven recommendations.
- Focus Areas: Customer behavior, product performance, and operations/logistics.



Expectation:

The expectation is to perform a comprehensive Exploratory Data Analysis (EDA). The final output should be a detailed report or presentation that includes the following:

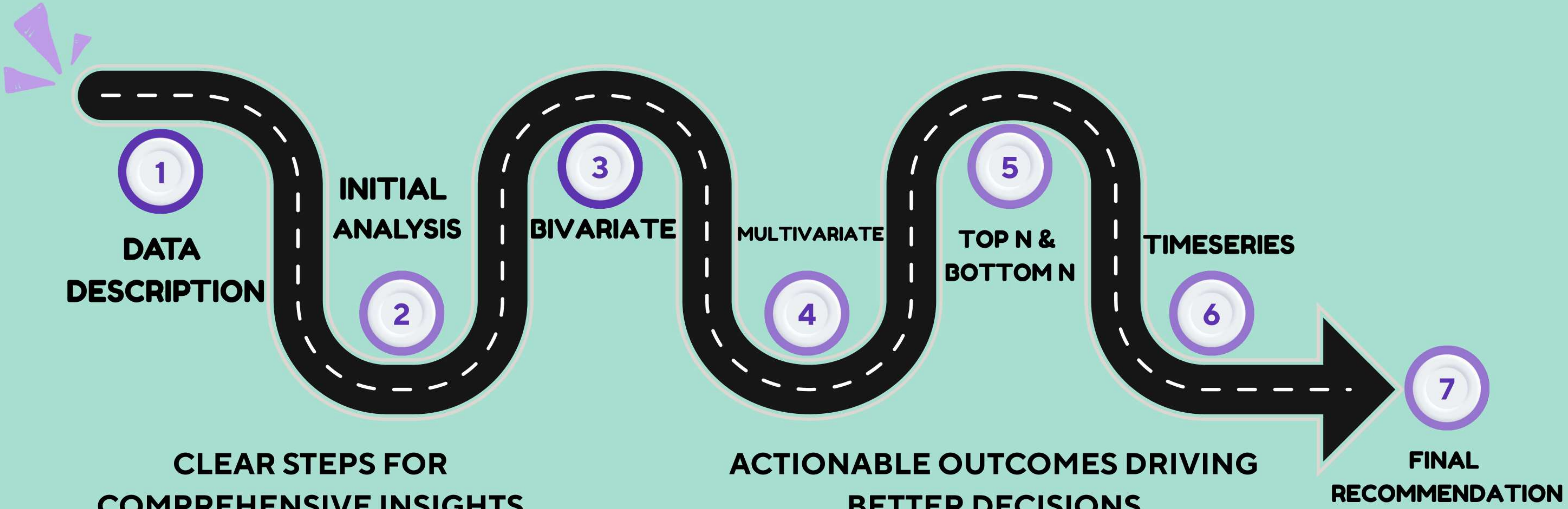
- Key Insights: Data-driven discoveries from the analysis.
- Actionable Recommendations: Clear suggestions for the OmniMart leadership team.
- Application of Findings: Ideas on how the insights can be used for targeted marketing, improving the product catalog, or enhancing the overall customer experience.

Key Challenge Areas Revealed by Analysis:

The main challenges in this project are to optimize customer experience and sales for OmniMart Retailers. This involves using data analysis to gain a deeper understanding of the company's customer base. The key challenge areas are:

- Customer Behavior: Understanding customer habits, spending patterns, and loyalty.
- Product Performance: Evaluating product popularity and the relationship between ratings and sales.
- Operations & Logistics: Analyzing the impact of shipping methods and payment types on order status and value.

Components of an Effective Data Analysis



CLEAR STEPS FOR COMPREHENSIVE INSIGHTS

BREAK DOWN COMPLEX DATA INTO UNDERSTANDABLE PARTS FOR EFFECTIVE DECISION-MAKING.

ACTIONABLE OUTCOMES DRIVING BETTER DECISIONS

TRANSLATE ANALYSIS INTO PRACTICAL BUSINESS RECOMMENDATIONS AND STRATEGIES.

Data Description

BASIC DATA OVERVIEW AND REQUIRED DATA TYPE CHANGES

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 302010 entries, 0 to 302009
Data columns (total 30 columns):
 #   Column            Non-Null Count   Dtype
---  ------            --------------   -----
 0   Transaction_ID    301677 non-null  float64
 1   Customer_ID       301702 non-null  float64
 2   Name              301628 non-null  object
 3   Email             301663 non-null  object
 4   Phone             301648 non-null  float64
 5   Address           301695 non-null  object
 6   City              301762 non-null  object
 7   State             301729 non-null  object
 8   Zipcode           301670 non-null  float64
 9   Country           301739 non-null  object
 10  Age               301837 non-null  float64
 11  Gender            301693 non-null  object
 12  Income            301720 non-null  object
 13  Customer_Segment  301795 non-null  object
 14  Date              301651 non-null  object
 15  Year              301660 non-null  float64
 16  Month             301737 non-null  object
 17  Time              301660 non-null  object
 18  Total_Purchases   301649 non-null  float64
 19  Amount            301653 non-null  float64
 20  Total_Amount      301660 non-null  float64
 21  Product_Category  301727 non-null  object
 22  Product_Brand     301729 non-null  object
 23  Product_Type      302010 non-null  object
 24  Feedback          301826 non-null  object
 25  Shipping_Method   301673 non-null  object
 26  Payment_Method    301713 non-null  object
 27  Order_Status      301775 non-null  object
 28  Ratings           301826 non-null  float64
 29  products          302010 non-null  object
dtypes: float64(10), object(20)
memory usage: 69.1+ MB
```

```
<class 'pandas.core.frame.DataFrame'>
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Data columns (total 30 columns):
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 1   Customer_ID       300651 non-null  object
 2   Name              300272 non-null  object
 3   Email             300305 non-null  object
 4   Phone             300290 non-null  object
 5   Address           300339 non-null  object
 6   City              300403 non-null  object
 7   State             300375 non-null  object
 8   Zipcode           300312 non-null  object
 9   Country           300382 non-null  object
 10  Age               300479 non-null  float64
 11  Gender            300335 non-null  object
 12  Income            300361 non-null  object
 13  Customer_Segment  300436 non-null  object
 14  Date              300651 non-null  datetime64[ns]
 15  Year              300303 non-null  Int64
 16  Month             300381 non-null  object
 17  Time              300302 non-null  datetime64[ns]
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 19  Amount            300651 non-null  float64
 20  Total_Amount      300304 non-null  float64
 21  Product_Category  300369 non-null  object
 22  Product_Brand     300373 non-null  object
 23  Product_Type      300651 non-null  object
 24  Feedback          300467 non-null  object
 25  Shipping_Method   300316 non-null  object
 26  Payment_Method    300355 non-null  object
 27  Order_Status      300417 non-null  object
 28  Ratings           300467 non-null  float64
 29  products          300651 non-null  object
dtypes: Int64(1), datetime64[ns](2), float64(5), object(22)
memory usage: 71.4+ MB
```

TINY PART OF THE CLEANED DATA

	0	1	2	3	4
Transaction_ID	8691788	2174773	6679610	7232460	4983775
Customer_ID	37249	69749	30192	62101	27901
Name	Michelle Harrington	Kelsey Hill	Scott Jensen	Joseph Miller	Debra Coleman
Email	Ebony39@gmail.com	Mark36@gmail.com	Shane85@gmail.com	Mary34@gmail.com	Charles30@gmail.com
Phone	1414786801	6852899987	8362160449	2776751724	9098267635
Address	3959 Amanda Burgs	82072 Dawn Centers	4133 Young Canyon	8148 Thomas Creek Suite 100	5813 Lori Ports Suite 269
City	Dortmund	Nottingham	Geelong	Edmonton	Bristol
State	Berlin	England	New South Wales	Ontario	England
Zipcode	77985	99071	75929	88420	48704
Country	Germany	UK	Australia	Canada	UK
Age	21.0	19.0	48.0	56.0	22.0
Gender	Male	Female	Male	Male	Male
Income	Low	Low	Low	High	Low
Customer_Segment	Regular	Premium	Regular	Premium	Premium
Date	2023-09-18 00:00:00	2023-12-31 00:00:00	2023-04-26 00:00:00	2023-05-08 00:00:00	2024-01-10 00:00:00
Year	2023	2023	2023	2023	2024
Month	September	December	April	May	January
Time	2023-09-18 22:03:55	2023-12-31 08:42:04	2023-04-26 04:06:29	2023-05-08 14:55:17	2024-01-10 16:54:07
Total_Purchases	3.0	2.0	3.0	7.0	2.0
Amount	108.028757	403.353907	354.4776	352.407717	124.276524
Total_Amount	324.08627	806.707815	1063.432799	2466.854021	248.553049
Product_Category	Clothing	Electronics	Books	Home Decor	Grocery
Product_Brand	Nike	Samsung	Penguin Books	Home Depot	Nestle
Product_Type	Shorts	Tablet	Children's	Tools	Chocolate
Feedback	Excellent	Excellent	Average	Excellent	Bad
Shipping_Method	Same-Day	Standard	Same-Day	Standard	Standard
Payment_Method	Debit Card	Credit Card	Credit Card	PayPal	Cash
Order_Status	Shipped	Processing	Processing	Processing	Shipped
Ratings	5.0	4.0	2.0	4.0	1.0
products	Cycling shorts	Lenovo Tab	Sports equipment	Utility knife	Chocolate cookies

OVERVIEW OF DATASET STRUCTURE

- EACH COLUMN REPRESENTS ONE TRANSACTION RECORD AND EACH ROW CONTAINS A SPECIFIC ATTRIBUTE ABOUT THE CUSTOMER OR TRANSACTION.
- INCLUDED ATTRIBUTES SPAN PERSONAL CUSTOMER DETAILS, PURCHASE DETAILS, PRODUCT INFORMATION, PAYMENT, AND ORDER STATUS.

KEY DATA FIELDS

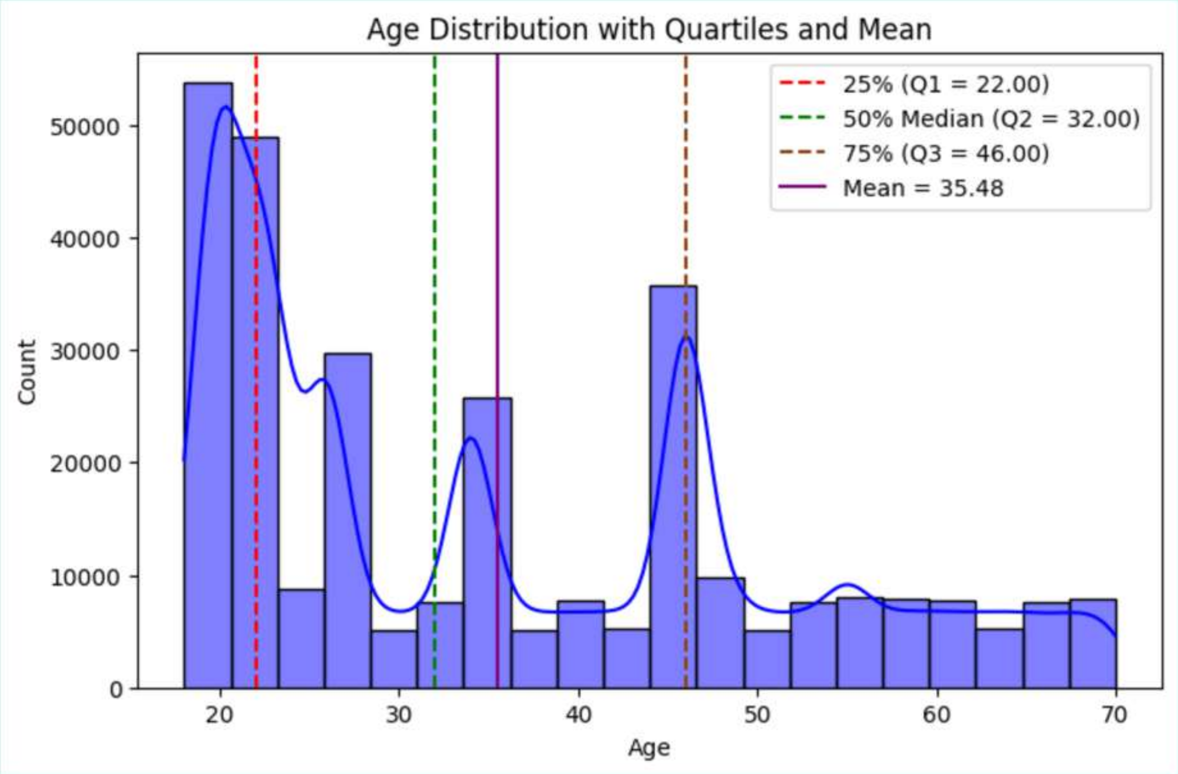
- CUSTOMER INFO: INCLUDES NAME, EMAIL, PHONE, ADDRESS, GENDER, AGE, INCOME LEVEL, COUNTRY, AND CUSTOMER SEGMENT.
- TRANSACTION DETAILS: FEATURES TRANSACTION ID, DATE AND TIME, TOTAL PURCHASES, AMOUNT SPENT, TOTAL AMOUNT, PAYMENT METHOD, AND SHIPPING METHOD.
- PRODUCT DATA: INDICATES PRODUCT CATEGORY, BRAND, TYPE, RATINGS, FEEDBACK, AND PRODUCT DESCRIPTION.
- ORDER STATUS: SPECIFIES STATUS (SHIPPED OR PROCESSING), FEEDBACK QUALITY, AND SHIPPING SPEED.

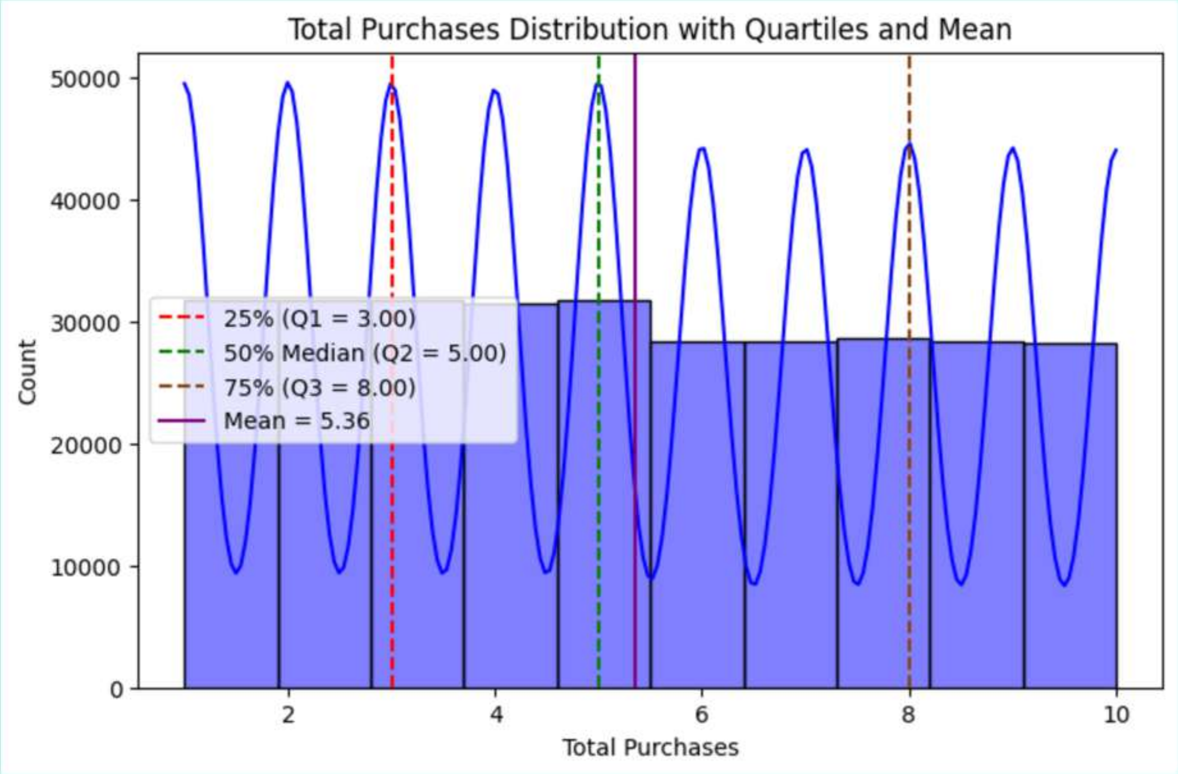
USE CASES

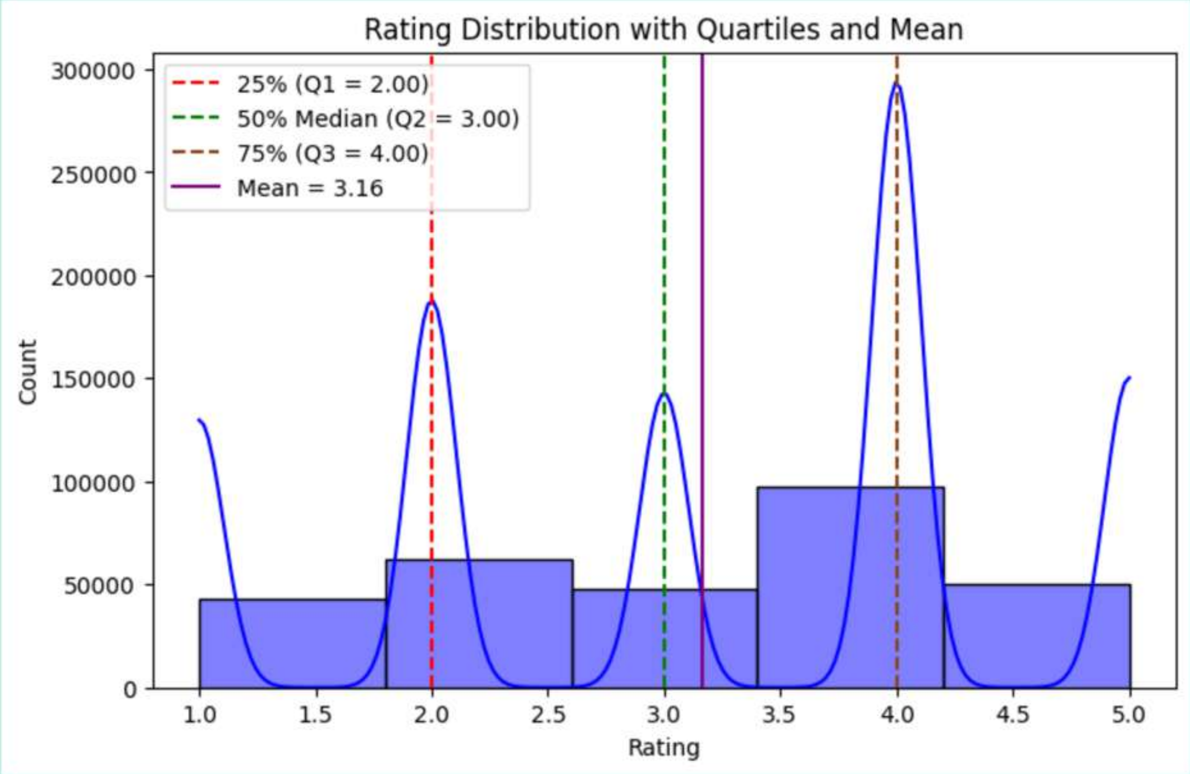
- THIS DATASET IS SUITABLE FOR CUSTOMER ANALYTICS, SEGMENTATION, PURCHASE BEHAVIOR ANALYSIS, AND SALES REPORTING.
- EACH ENTRY GIVES A COMPREHENSIVE VIEW OF AN INDIVIDUAL'S TRANSACTION, COMBINING DEMOGRAPHIC AND TRANSACTIONAL METRICS FOR BUSINESS INTELLIGENCE APPLICATIONS.

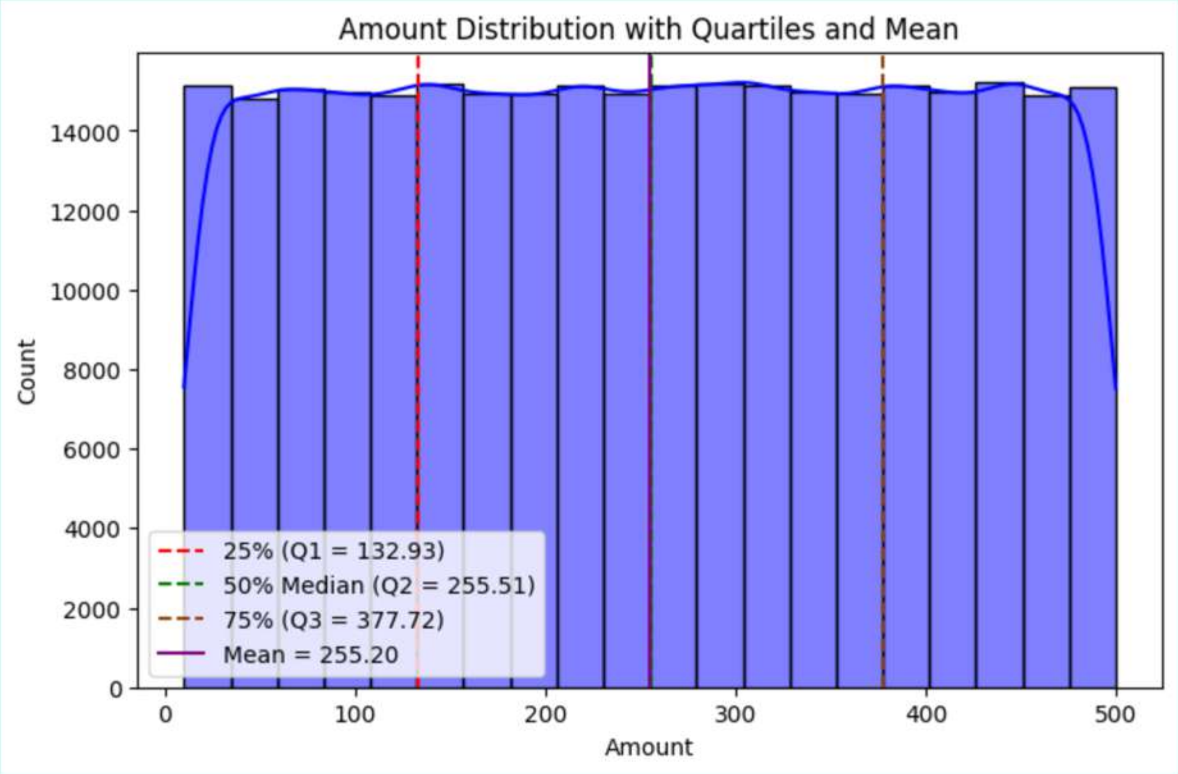
Visual Analysis of Numerical Variables

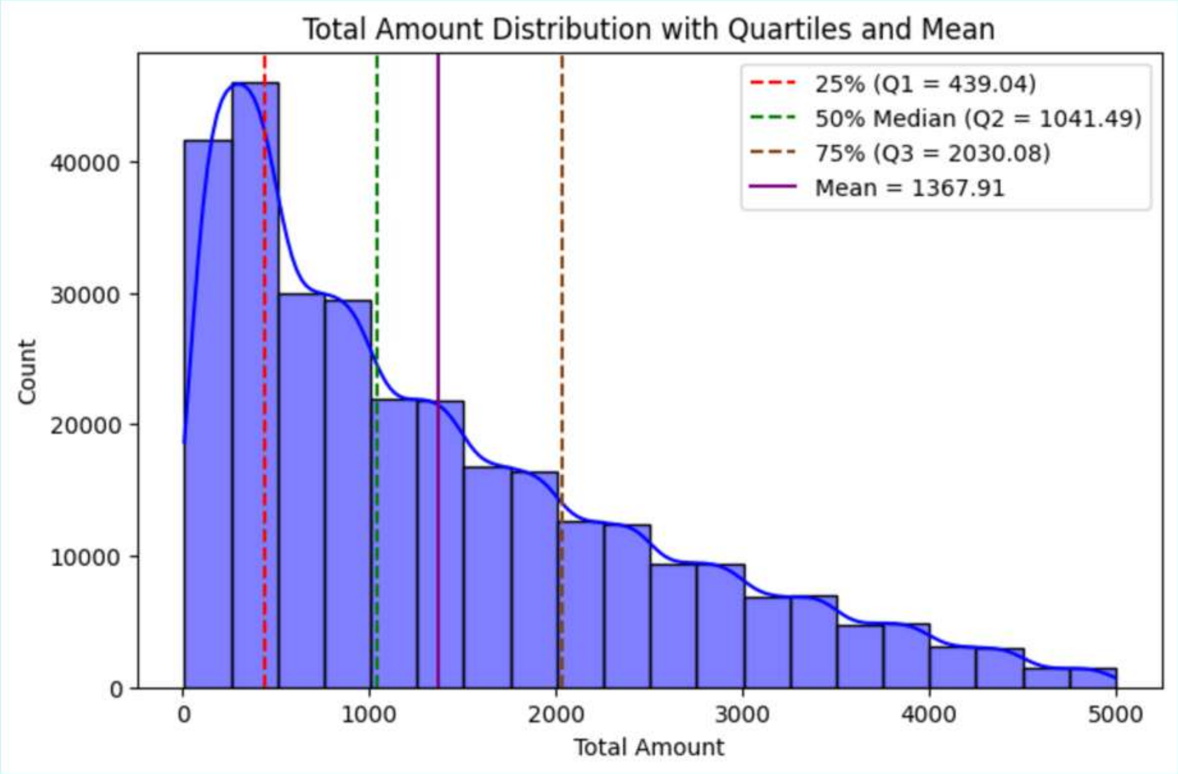
KEY NUMERICAL VARIABLES











Overview

Age Distribution:

- The distribution of ages is bimodal, with two distinct peaks around 20-30 years old and a smaller one around 45 years old. The mean age is 35.45, and the median is 32.00. The quartiles (Q1 at 22.00, Q3 at 48.00) show that 50% of the data falls within this wide range. This suggests the data represents two main user groups: a younger demographic and a slightly older one.

Total Purchases Distribution:

- This graph shows a highly skewed distribution of total purchases, with most users making a small number of purchases. The data is heavily concentrated between 0 and 2 purchases, with very few users making more than 6 purchases. The mean is 5.36 and the median is 5.00, indicating that the majority of users are clustered at the lower end of the purchase count. This suggests a pattern of low-frequency purchasing for most customers.

Rating Distribution:

- The ratings are distributed with multiple peaks, suggesting that users tend to give specific integer ratings rather than a continuous range. There are significant peaks at 1.0, 3.0, and 4.0, with a smaller peak at 5.0. The mean rating is 3.16 and the median is 3.00. The quartiles (Q1 at 2.40, Q3 at 4.00) show that a large portion of ratings falls between these two points. This indicates that while there's a range of opinions, the most common ratings are centered around average to good.

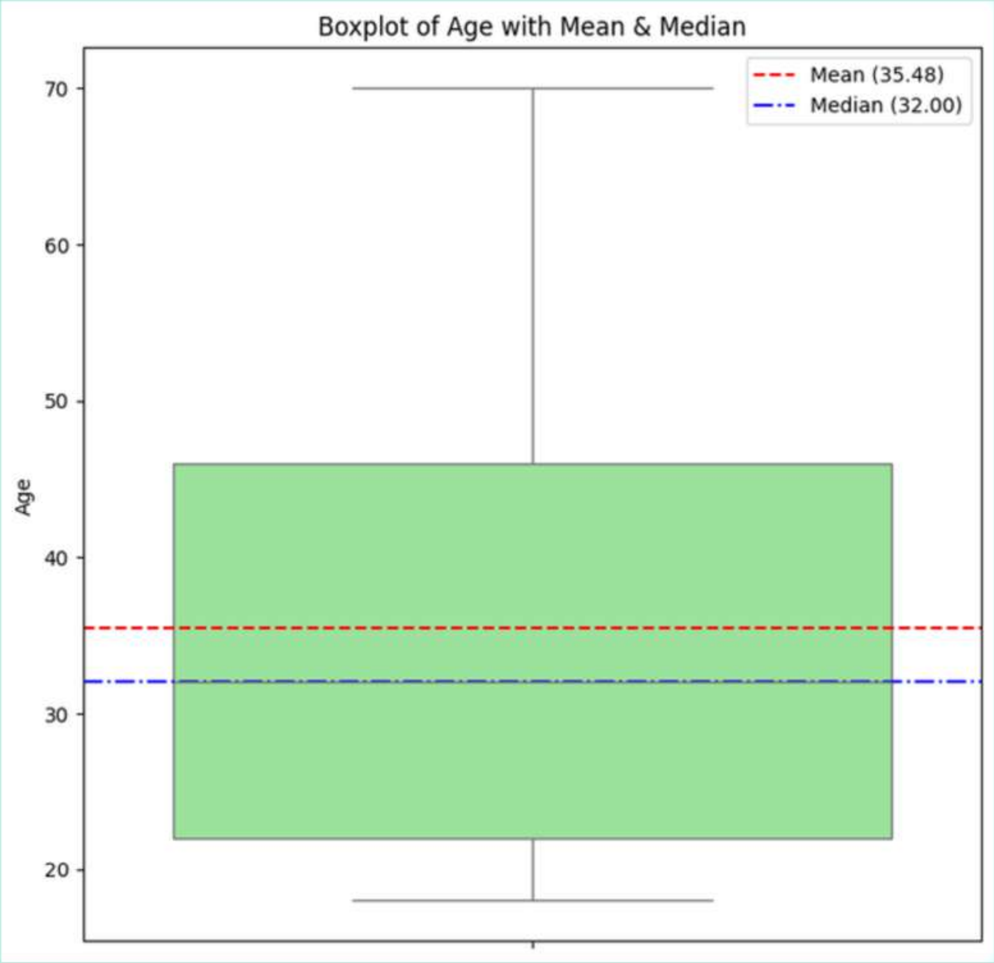
Amount Distribution:

- The amount spent per transaction is fairly uniform, meaning there isn't a strong concentration of data at any specific amount. The histogram is close to a rectangular shape, suggesting that transactions are spread across the entire range of amounts, from 0 to 500. The mean amount is 255.20, and the median is 255.51, which is consistent with a uniform distribution. The quartiles (Q1 at 133.51, Q3 at 377.29) further reinforce this, showing a wide spread of transaction values.

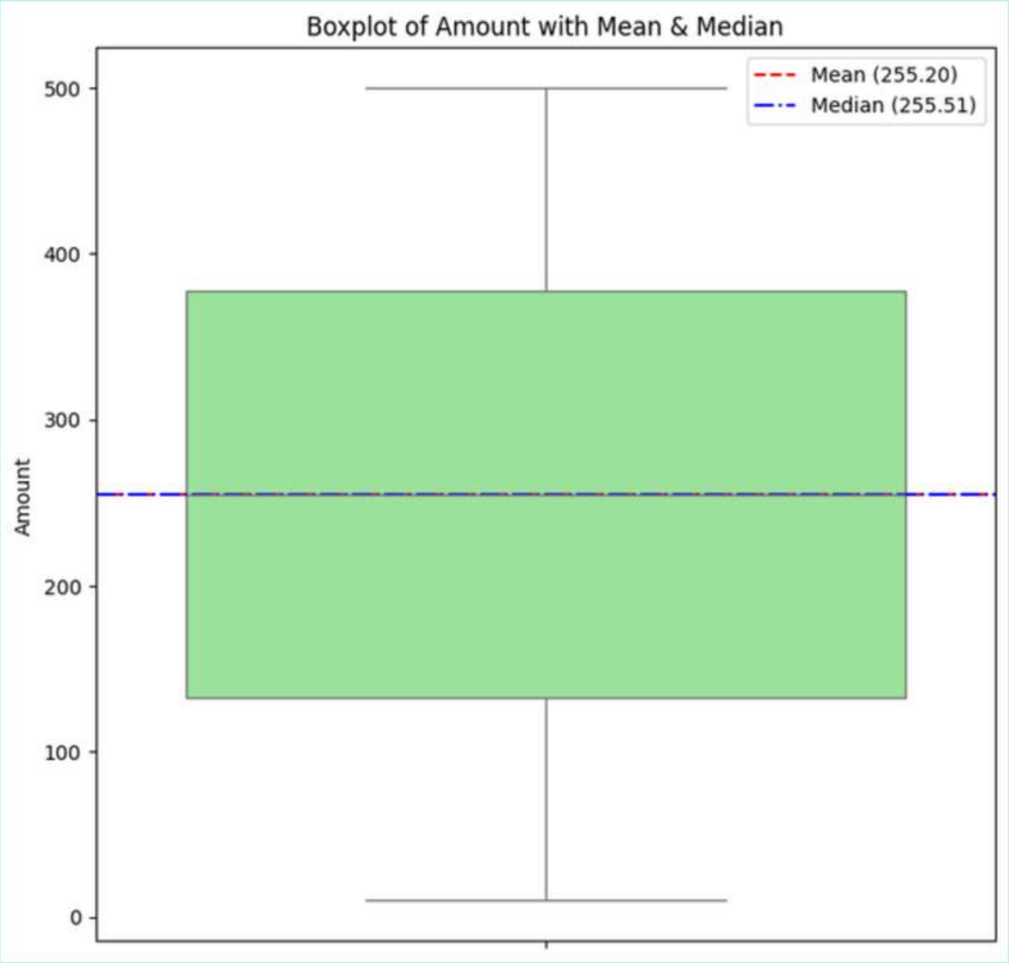
Total Amount Distribution:

- The total amount spent by each user is a positively skewed distribution, meaning a small number of users account for a large portion of the total spending. The data is heavily concentrated at the lower end of the spectrum, with a tail extending to higher values. The mean total amount is 1987.81, which is significantly higher than the median of 1050.08. The quartiles (Q1 at 349.03, Q3 at 2030.92) show that approximately 75% of users spend less than the mean total amount. This pattern is typical of a business where a few high-value customers drive a disproportionately large amount of revenue.

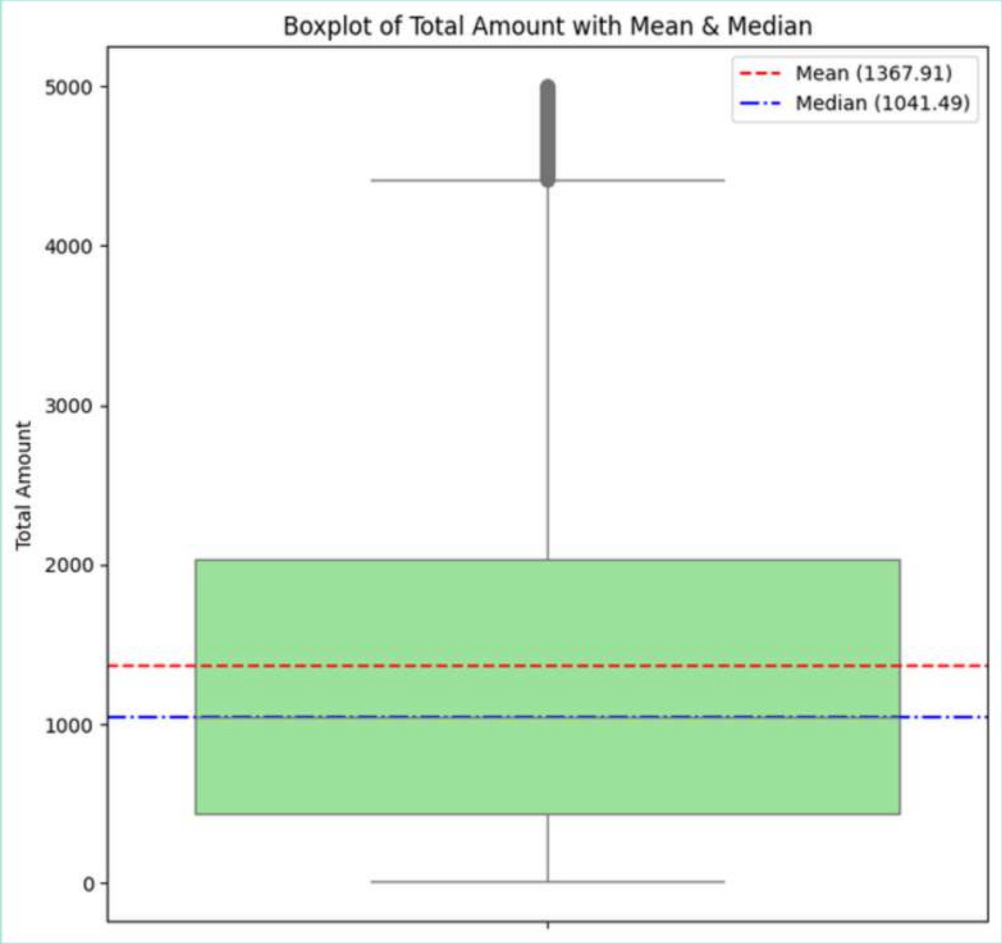
VISUAL ANALYSIS OF KEY NUMERICAL VARIABLES



The boxplot for age shows a relatively symmetrical distribution, indicated by the median (blue dashed line) and mean (red dotted line) being very close to each other, both around 35. The box represents the interquartile range (IQR), from approximately 25 to 45 years, suggesting that half of the users fall within this age bracket. The whiskers extend to include most of the data, and there are no clear outliers, indicating a well-contained dataset.

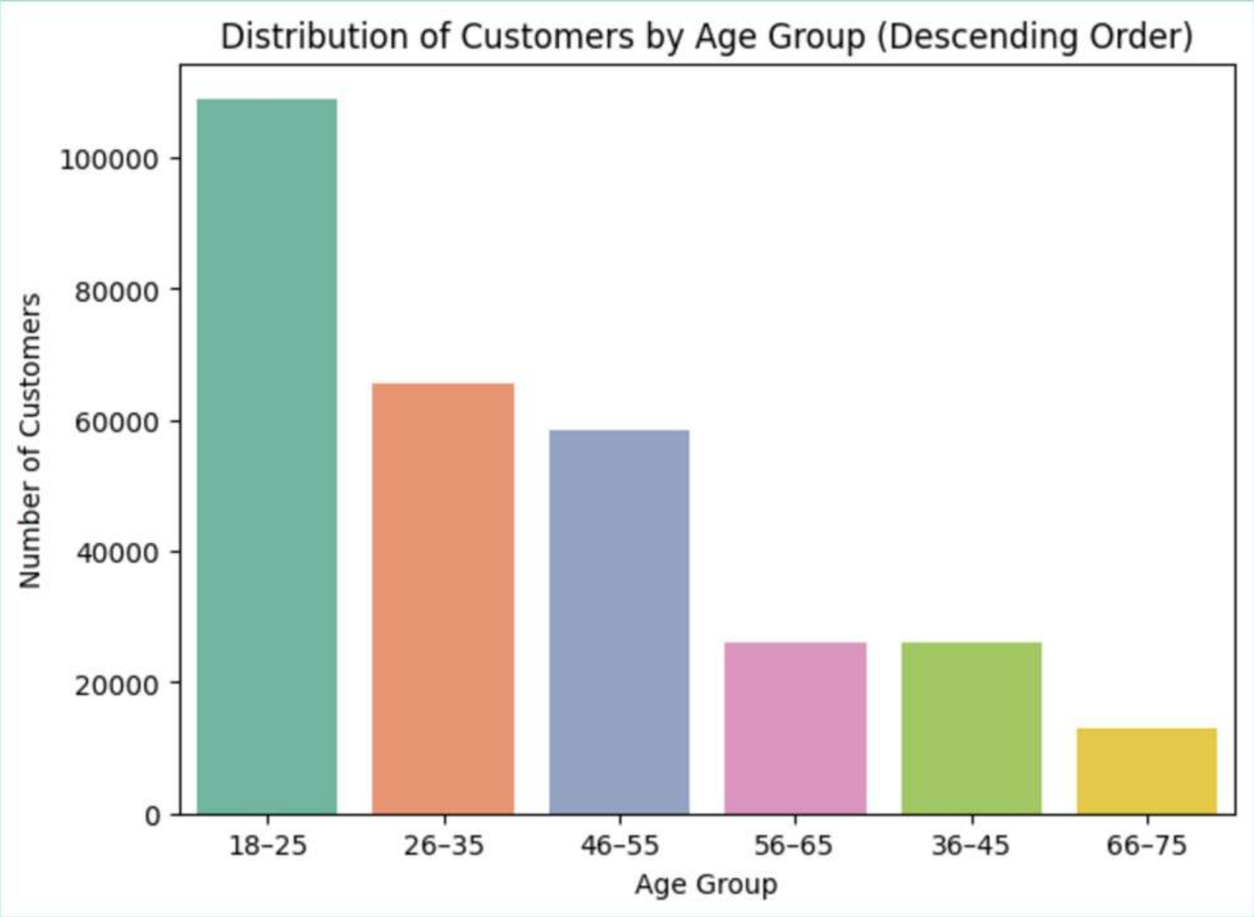


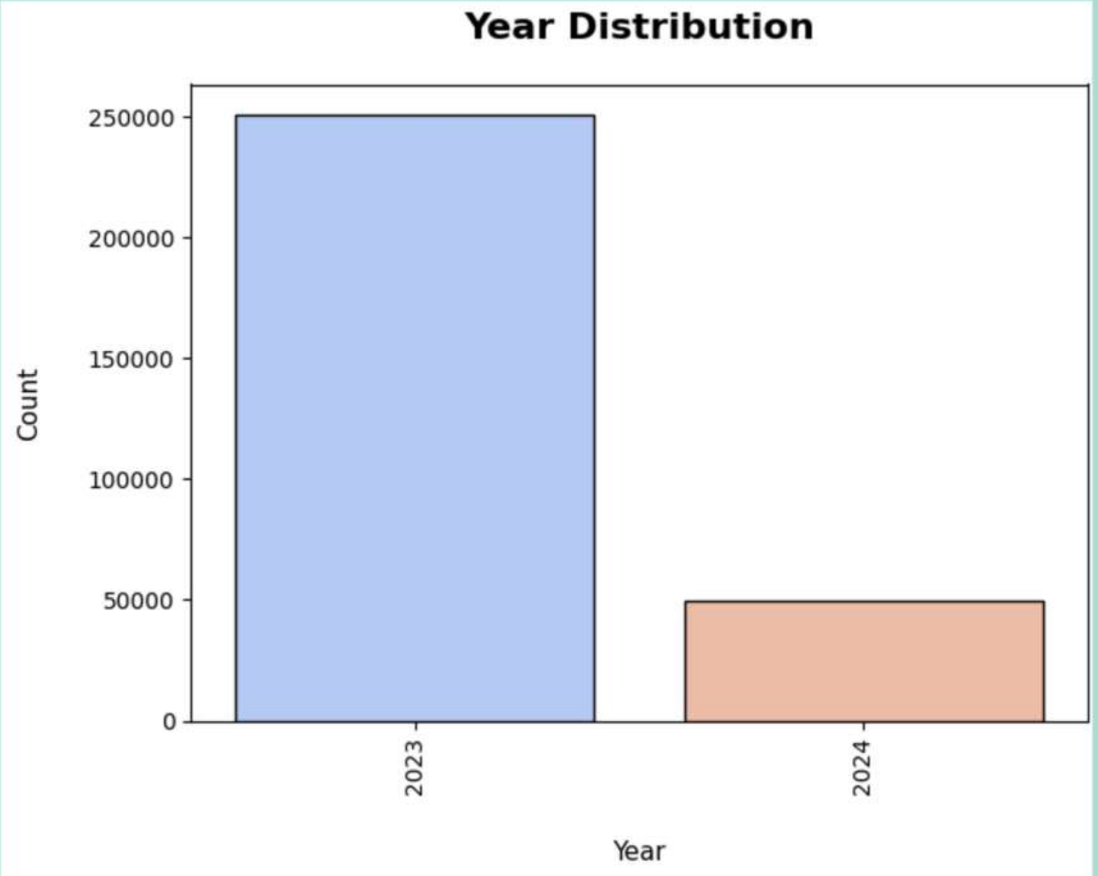
This boxplot for transaction amount is highly symmetrical, with the median (blue dashed line) at 255 and the mean (red dotted line) at 255.20 being nearly identical and perfectly centered within the box. This confirms the previously noted uniform distribution. The IQR is wide, ranging from roughly 100 to 400, and there are no outliers, which means transaction amounts are evenly spread across the entire range without any extreme values.

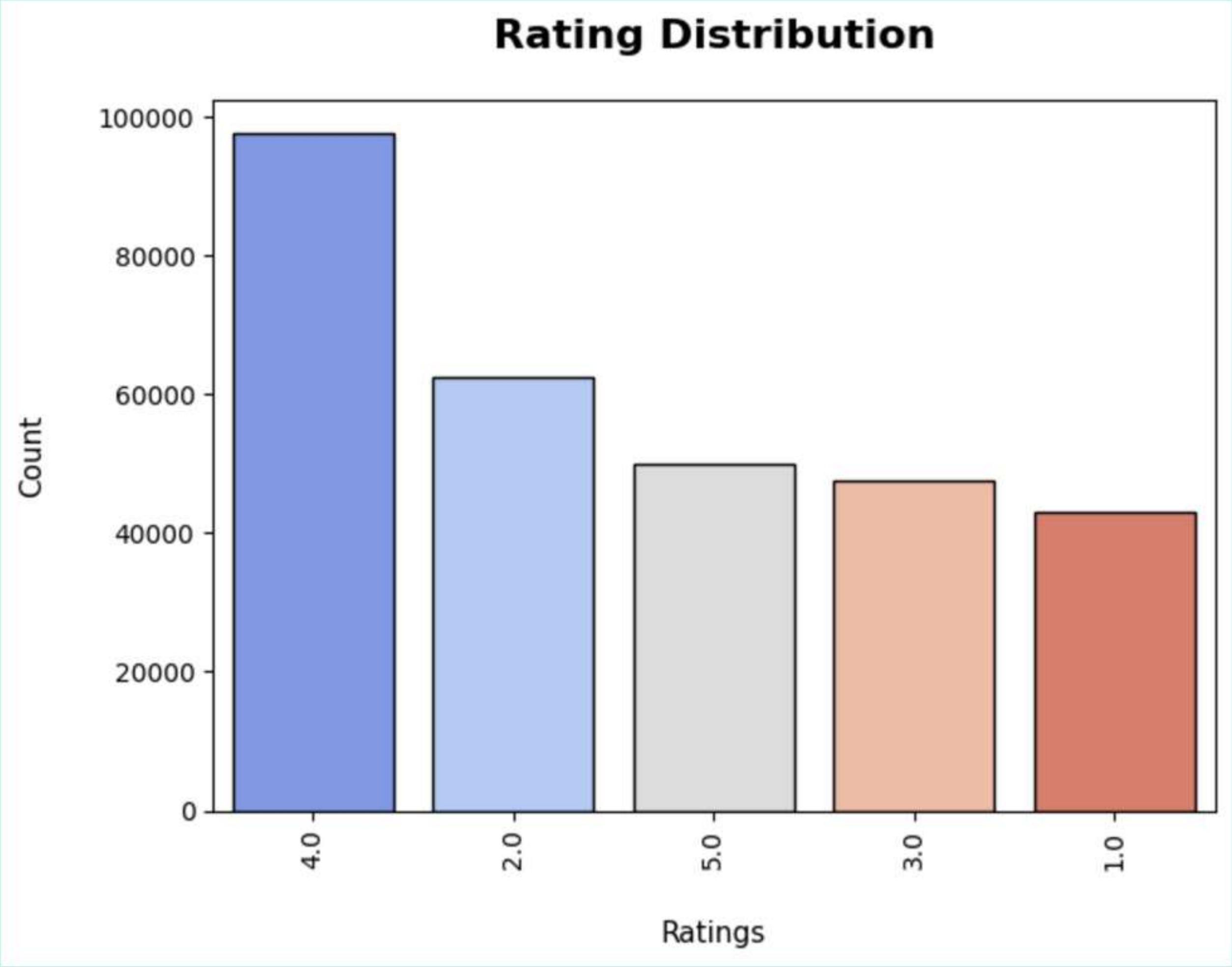


The boxplot for total amount spent is highly skewed to the right, a fact clearly indicated by the large number of outliers shown as individual points abovethe upper whisker. The mean (1987.81) is significantly higher than the median (1042.49), which is a classic sign of positive skewness. This confirms that while the majority of users spend a modest total amount (represented by the lower-half of the box), a few high-spending users, the outliers, are driving up the mean.

VISUAL ANALYSIS OF DISCRETE NUMERICAL VARIABLES







Overview

Total Purchases Distribution

- This plot illustrates how purchase counts are distributed across different unit categories, showing a relatively even frequency for each total unit purchased grouping. The uniformity suggests that all purchase categories are common and there is no significant skew towards any particular quantity.

Distribution of Customers by Age Group (Descending Order)

- This bar chart displays customer counts by age group in descending order. The majority of customers fall into the 18–25 age bracket, followed by those 26–35 and 46–55, with noticeably fewer in older age groups. This implies a predominantly younger customer demographic in the dataset.

Year Distribution

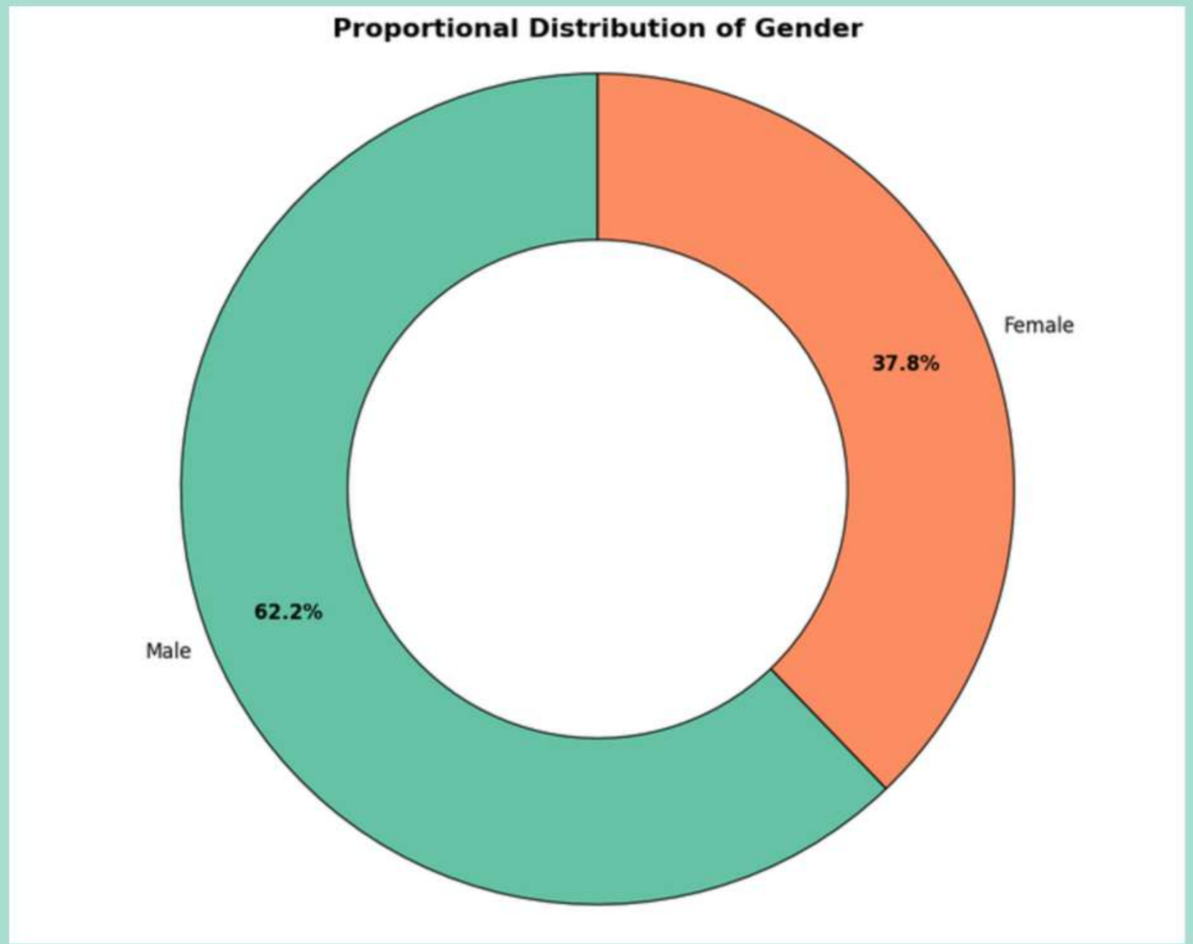
- This plot shows transaction counts by year, highlighting that the year 2023 has a much larger number of transactions compared to 2024. Such a distribution indicates either increased activity in the previous year or a dataset that is more focused on recent history.

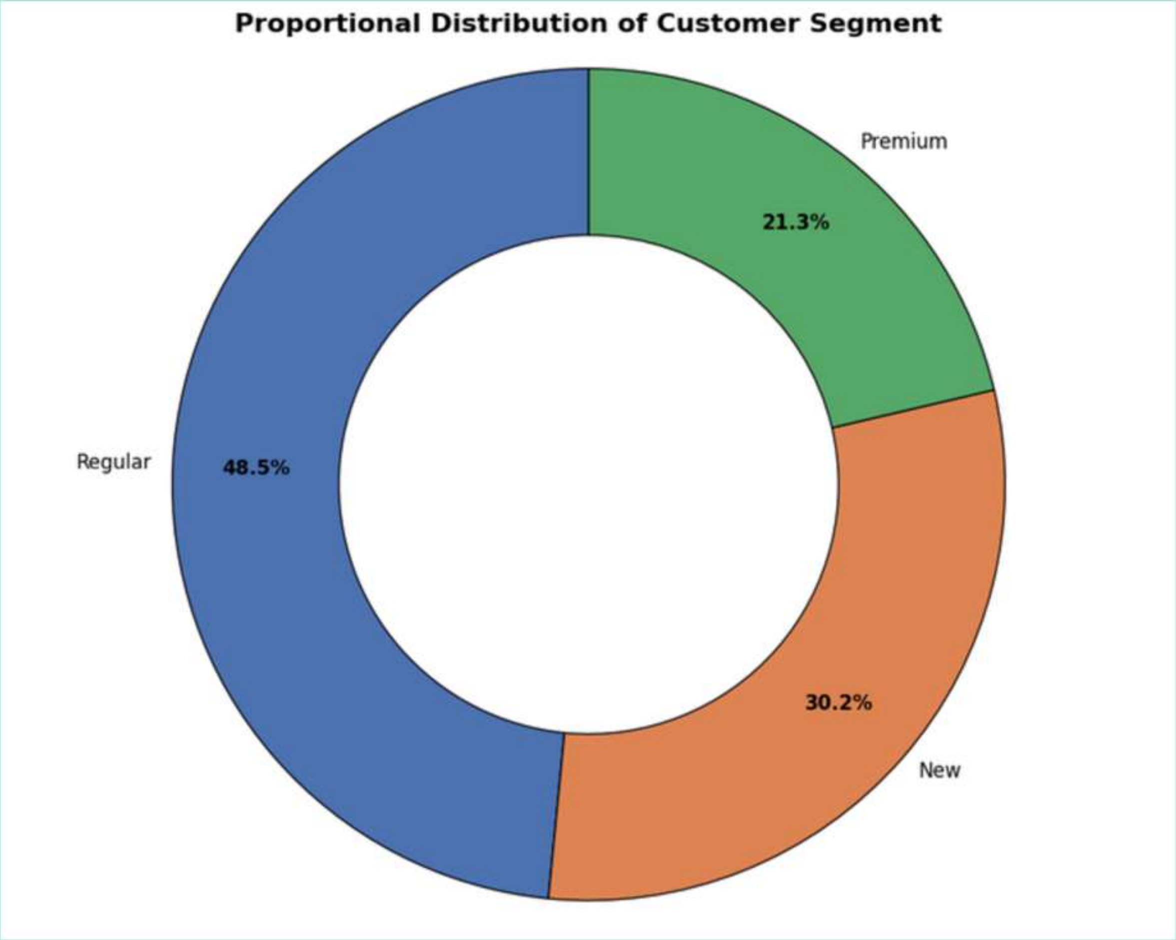
Rating Distribution

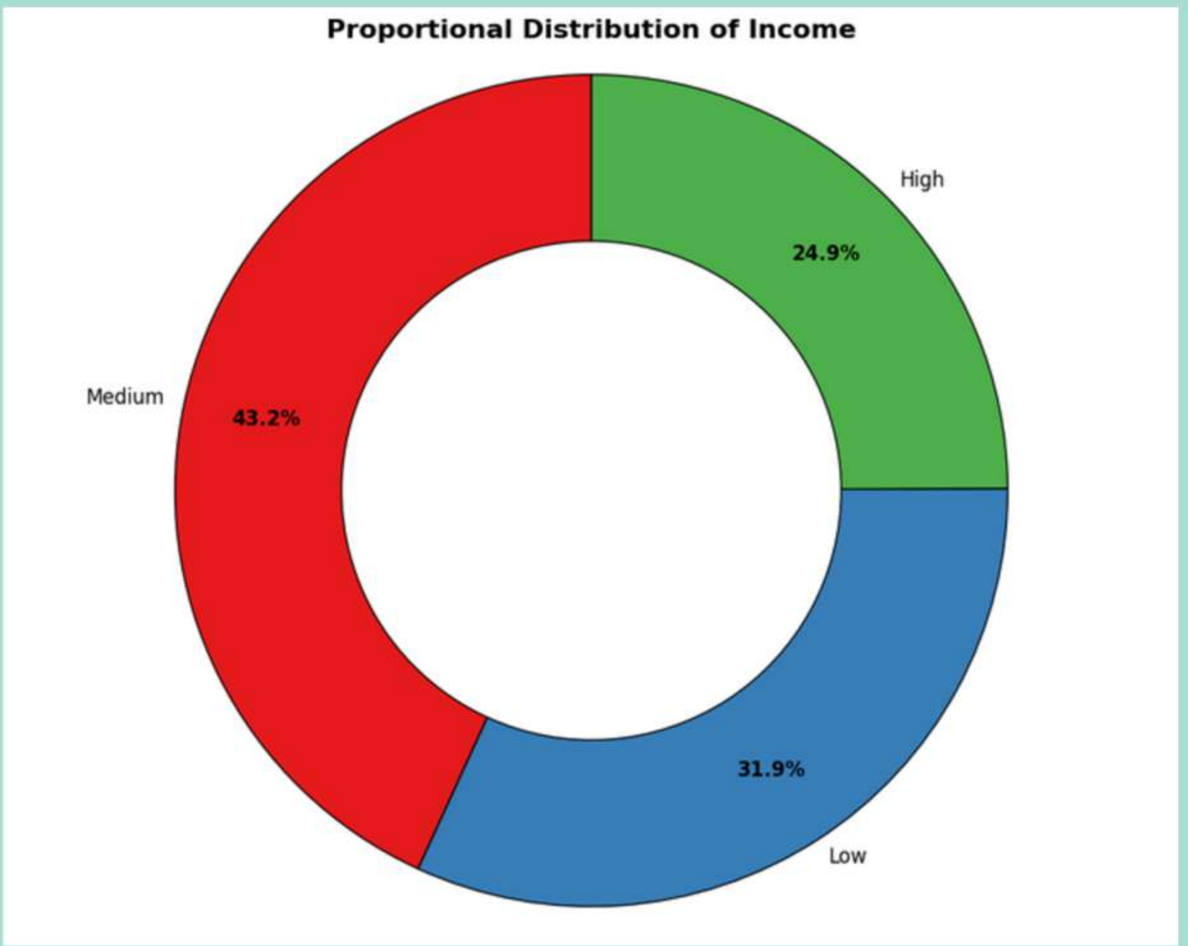
- The rating distribution chart presents how customer ratings are spread across transactions, with a clear peak at the rating of 4.0, followed by lower frequencies for ratings of 2.0, 3.0, and 1.0. This trend suggests generally positive feedback, as higher ratings are given more often than lower ones.

Visual Analysis of Categorical Variable

DISTRIBUTION OF GENDER CUSTOMER SEGMENT AND INCOME





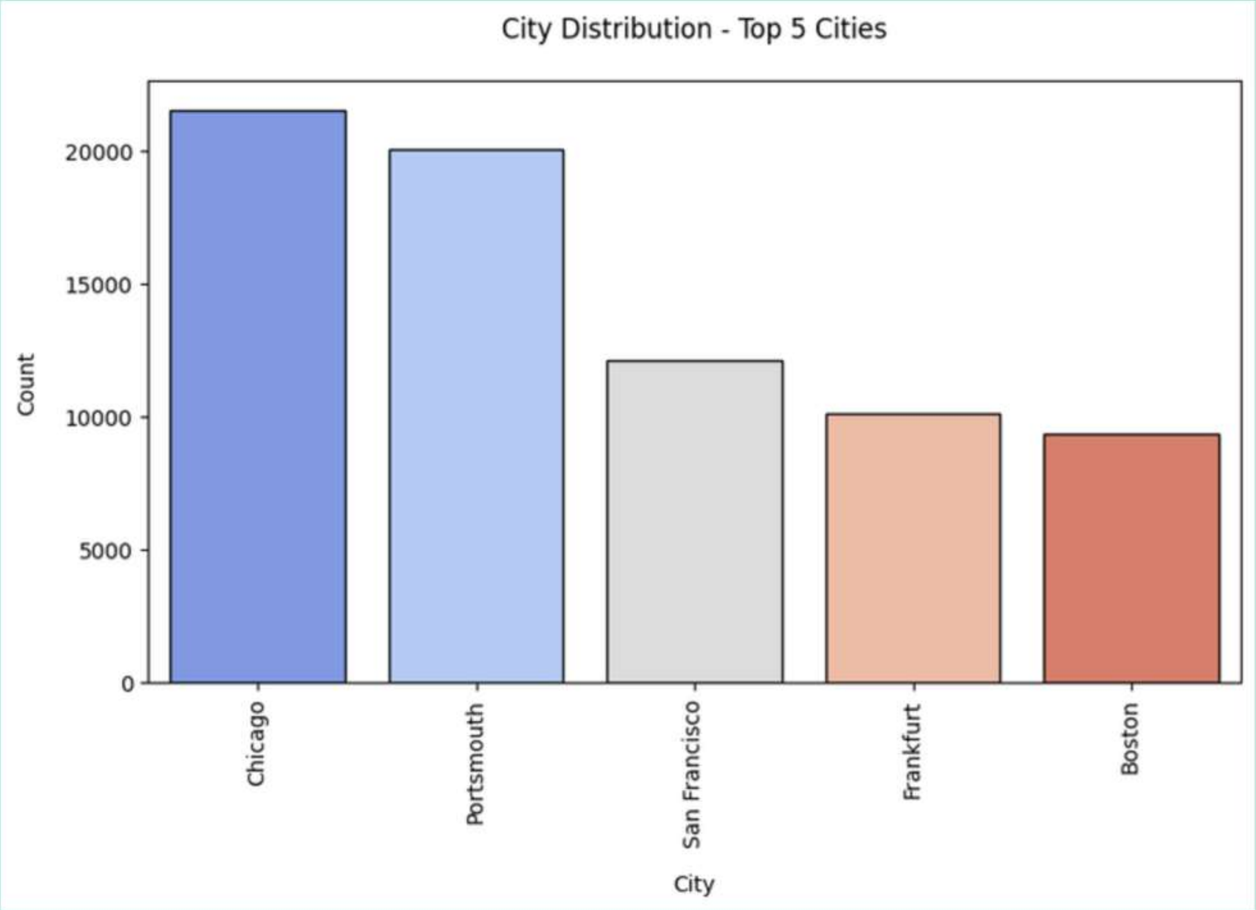


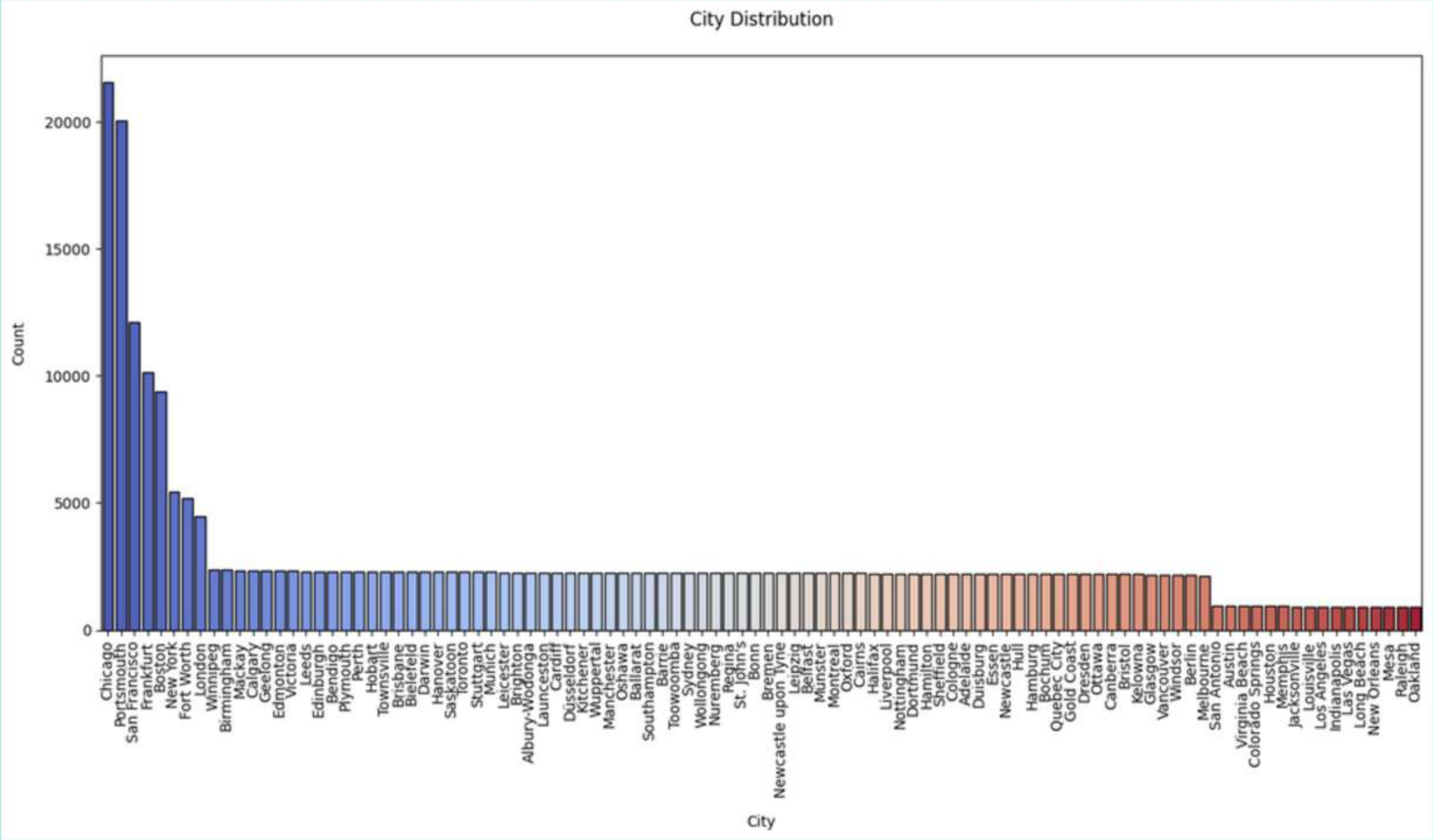
This donut chart shows the gender distribution of the customer base. The majority of customers are Male, accounting for 62.2%, while Female customers make up the remaining 37.8%. This indicates a significant gender imbalance in the dataset, with a higher proportion of male users.

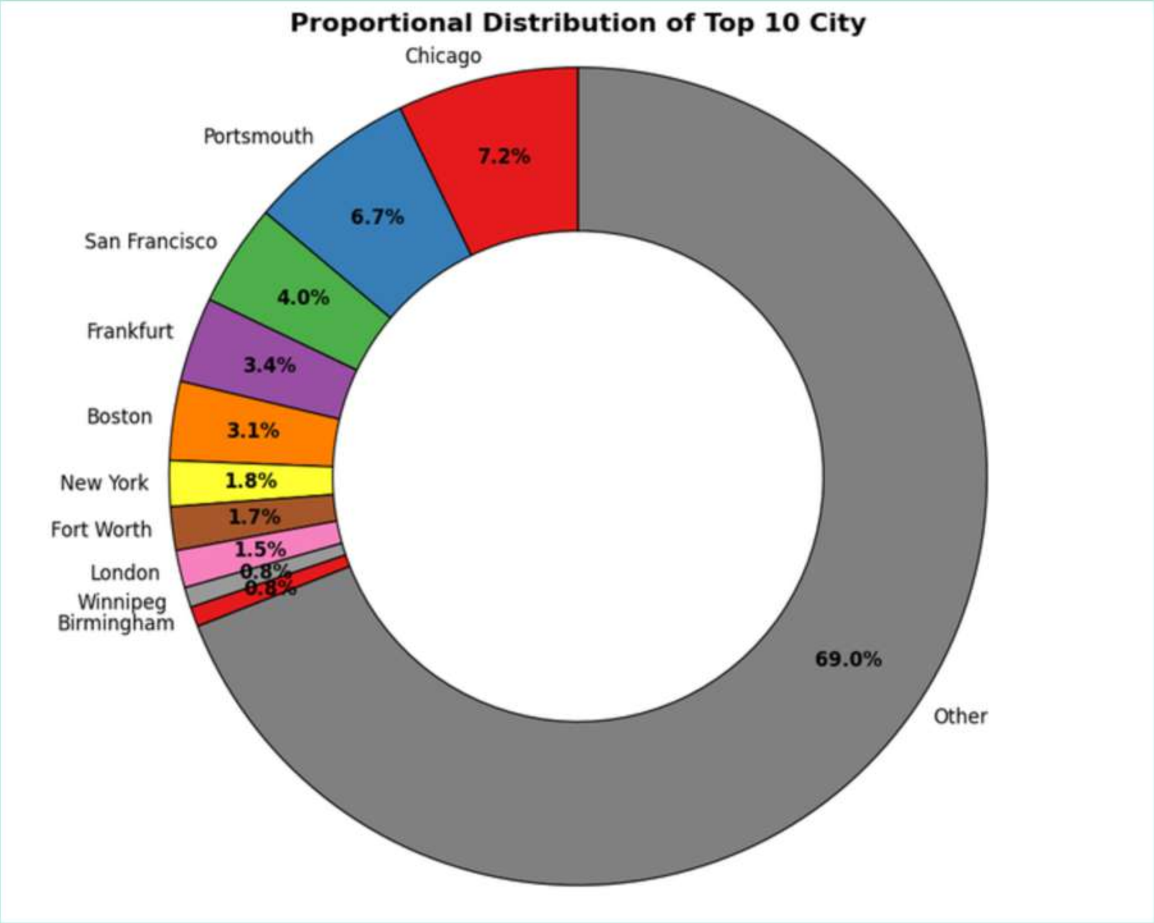
The customer base is divided into three segments: Regular, New, and Premium. The largest segment is Regular, comprising 46.5% of the customers. The New segment is the second largest at 30.2%, and the Premium segment is the smallest at 23.3%. This shows that most of the customers are established, regular users, followed by a substantial number of new users.

The income distribution is divided into three tiers: Low, Medium, and High. The largest group is the Medium income bracket, which accounts for 43.2% of the customers. The Low and High income groups are nearly equal in size, making up 31.8% and 24.9% respectively. This suggests that the majority of customers fall into the middle-income category.

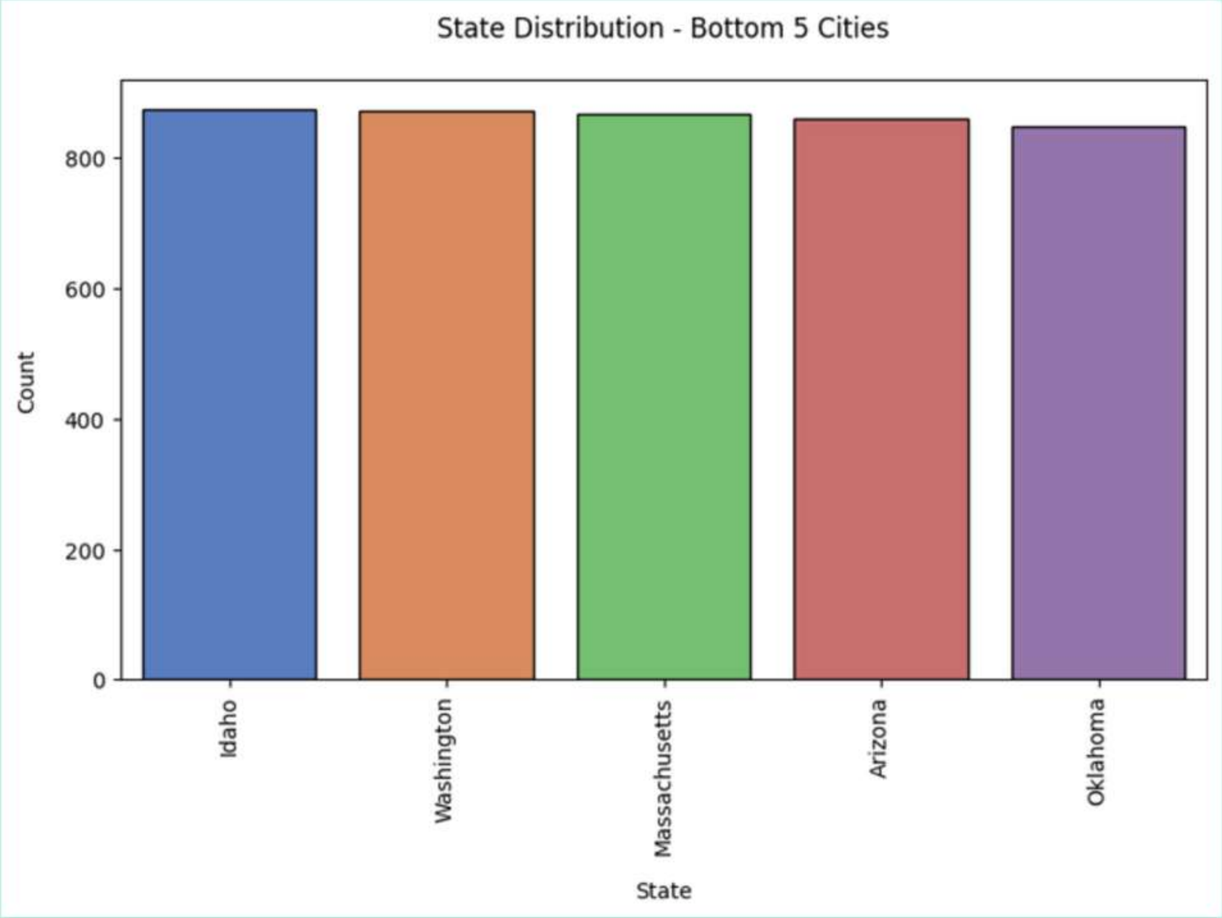
DISTRIBUTION OF CITIES

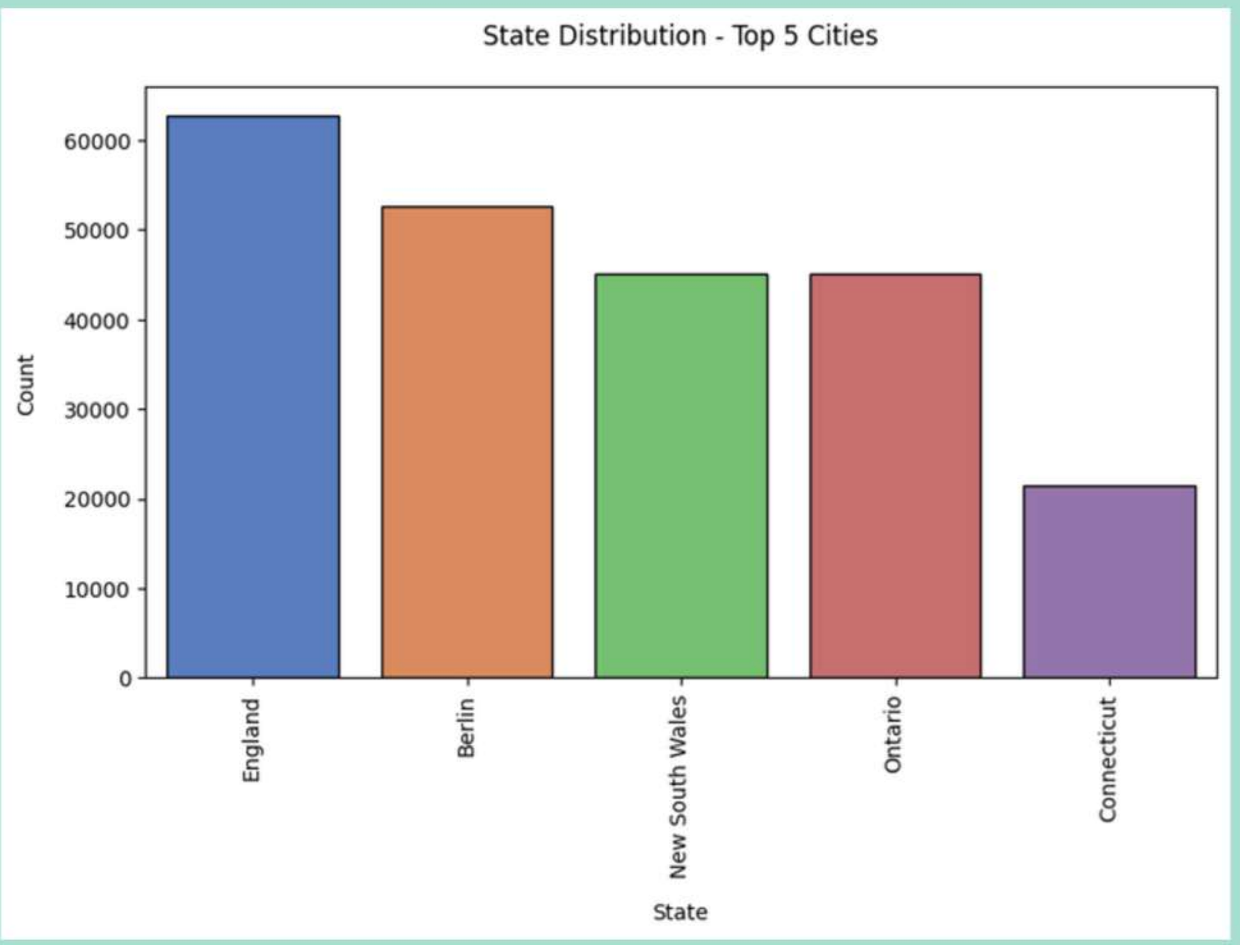


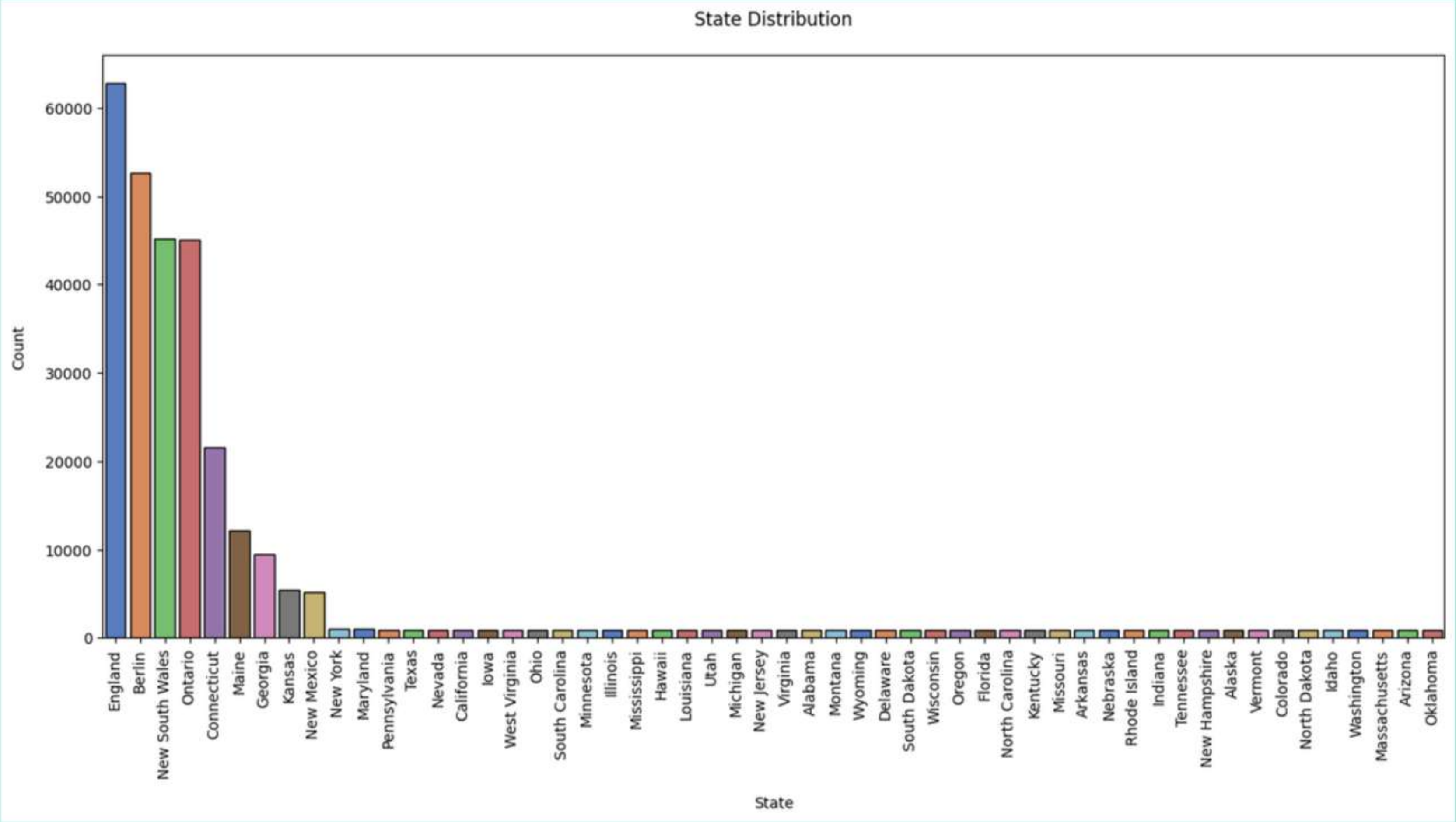


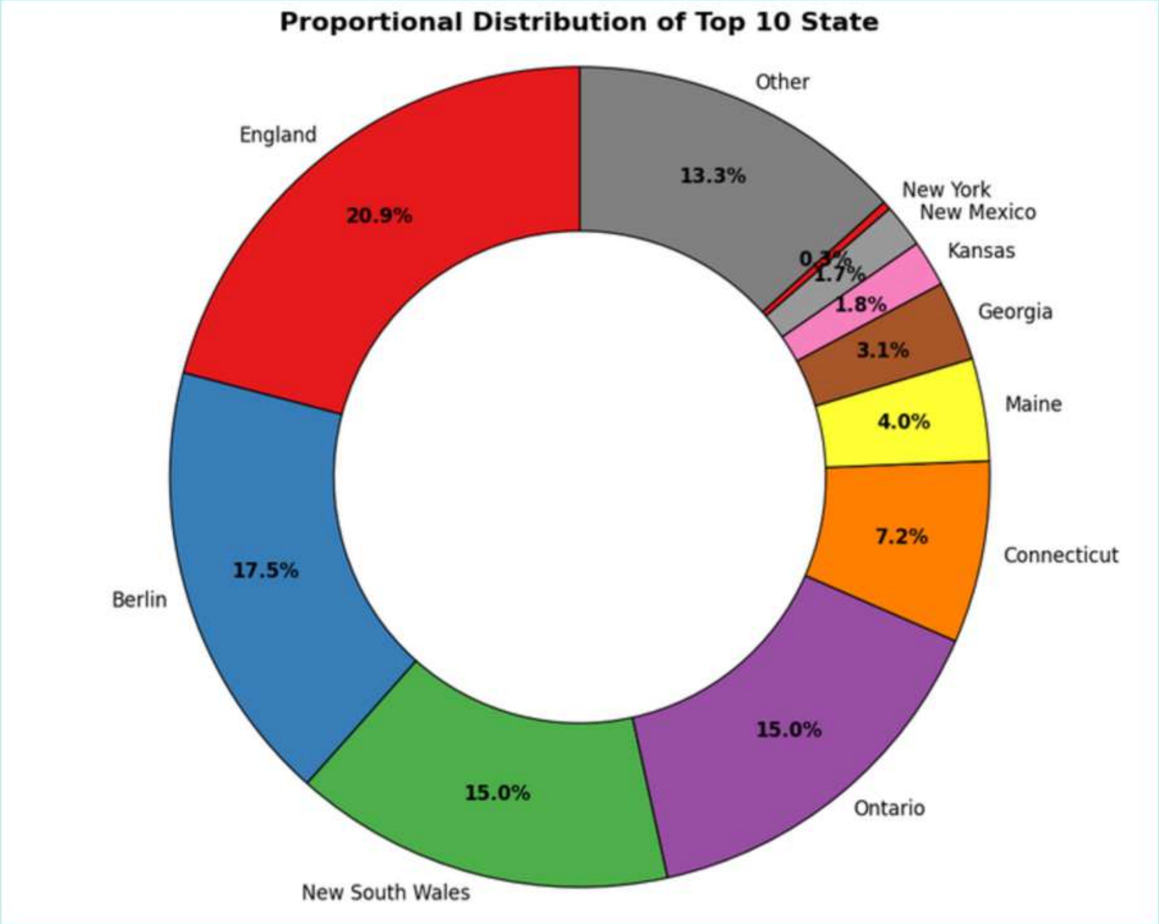


DISTRIBUTION OF STATES

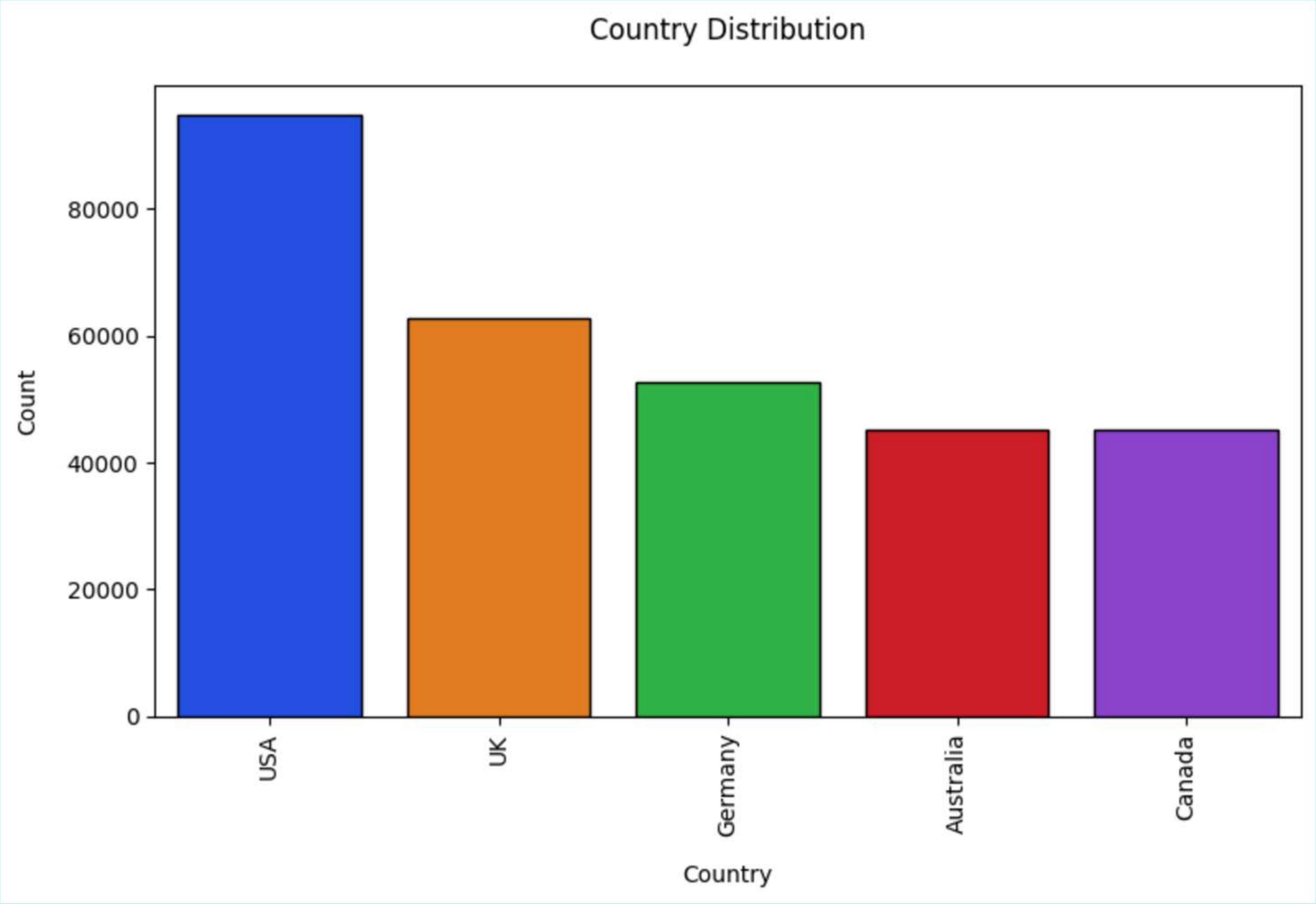


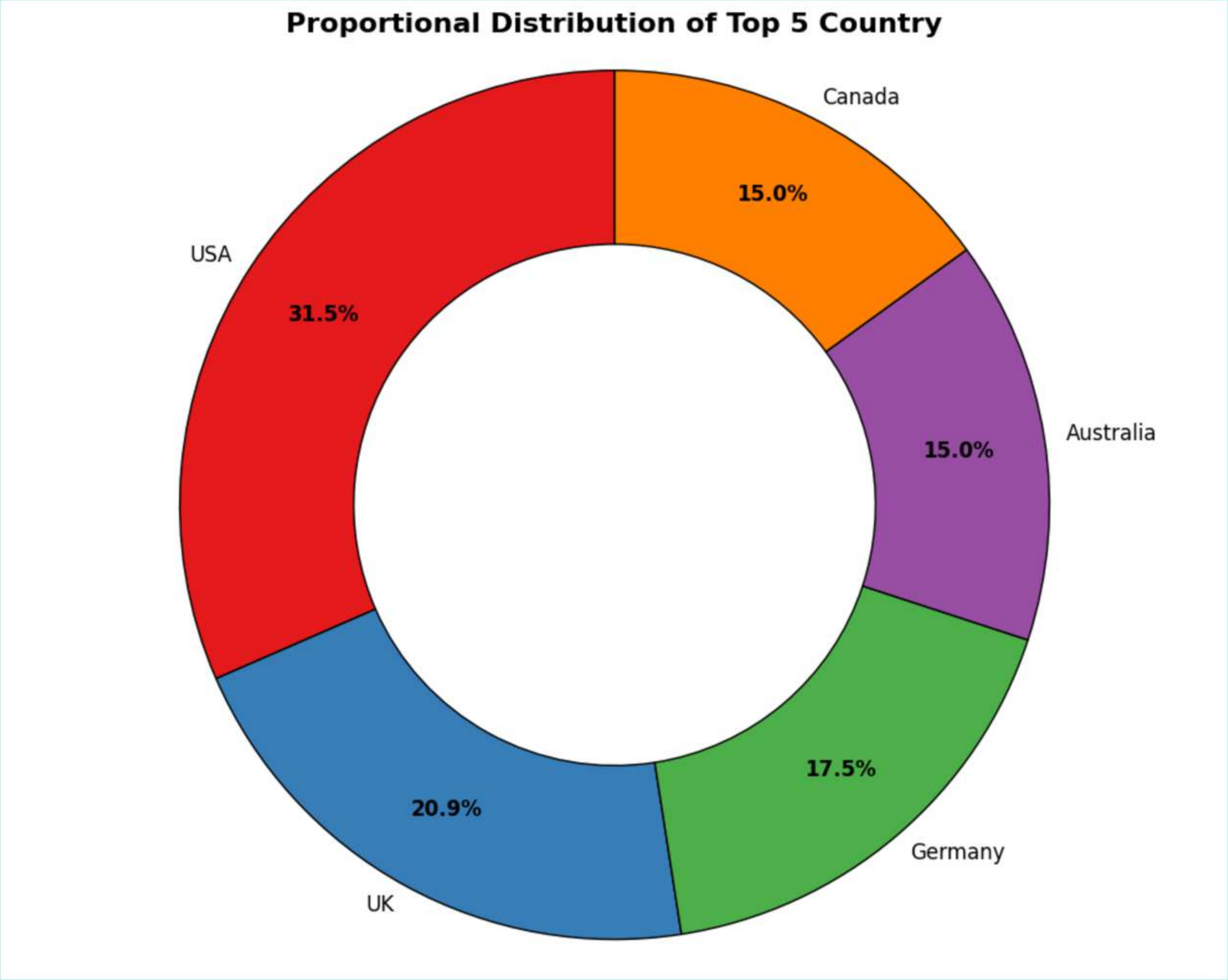






DISTRIBUTION OF COUNTRY





Overview

DISTRIBUTION OF CITIES

- This slide presents the city-wise distribution of data, with bar charts for both the top and bottom 5 cities, a full city count comparison, and a donut chart summarizing the top 10 cities proportionally. Chicago and Philadelphia are the most represented cities, while cities like Washington and San Diego have the least counts. The donut chart highlights the dominance of Chicago, accounting for the largest share, while the "Other" category encompasses many smaller cities, making up the majority of the dataset.

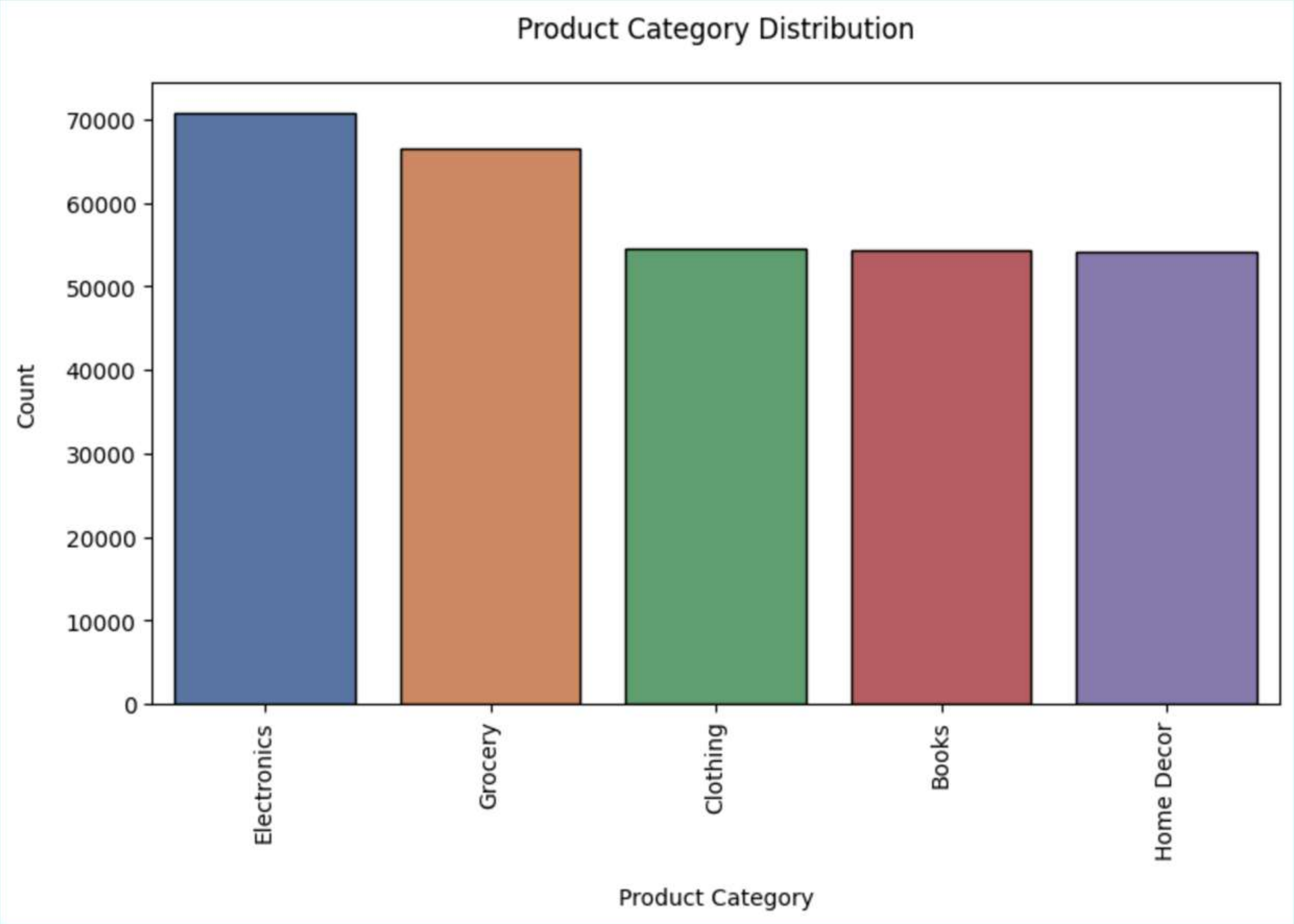
DISTRIBUTION OF STATES

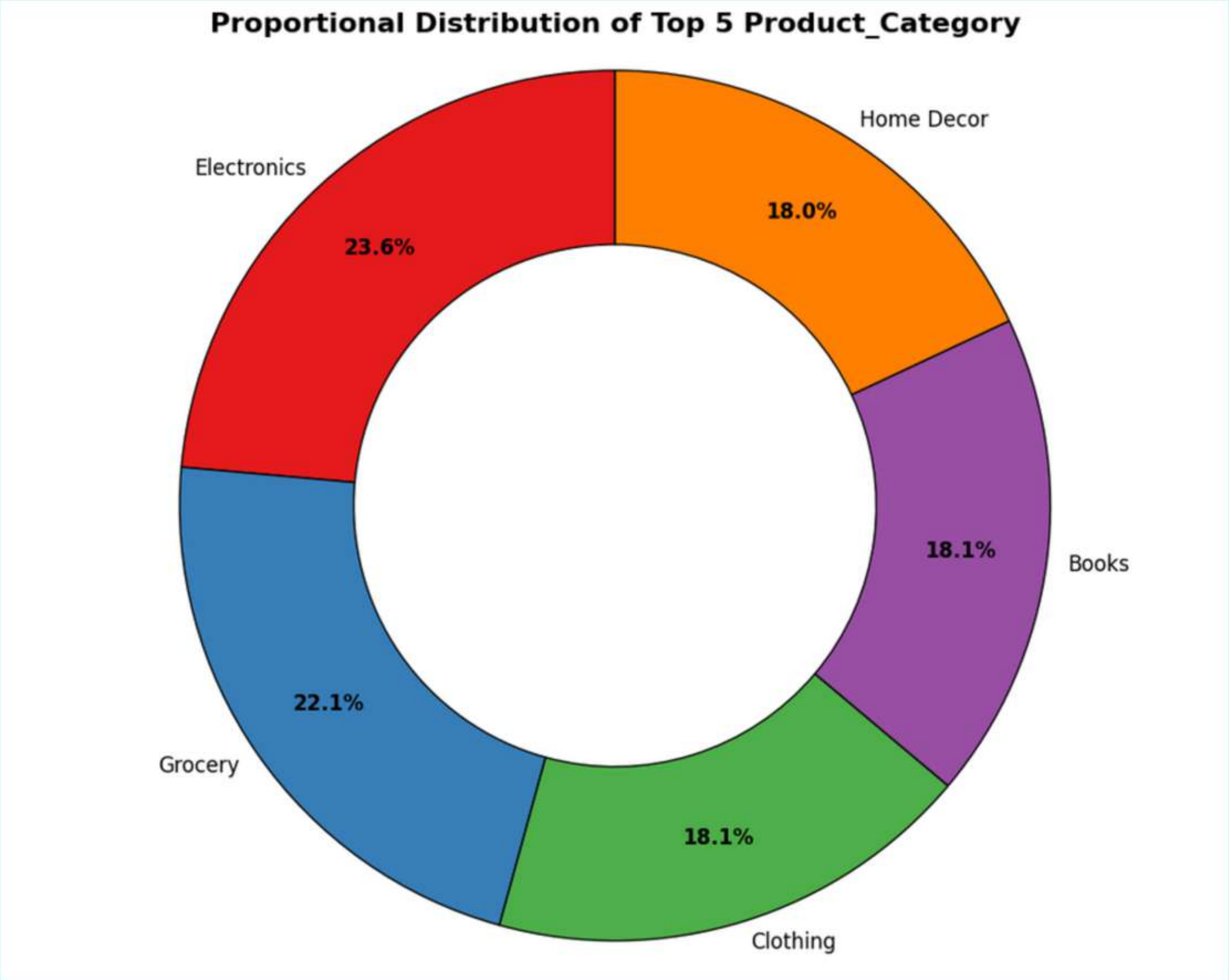
- This slide explores state-level demographics, featuring bar charts showing the top and bottom 5 states, a comprehensive state distribution, and a proportional donut chart for the top 10 states. England and Berlin stand out as the states with the highest data counts, whereas Idaho and Oklahoma feature among the lowest. The donut chart visualizes England's significant share followed by Berlin and New South Wales, while smaller states collectively make up a large portion of the total under "Other".

DISTRIBUTION OF COUNTRY

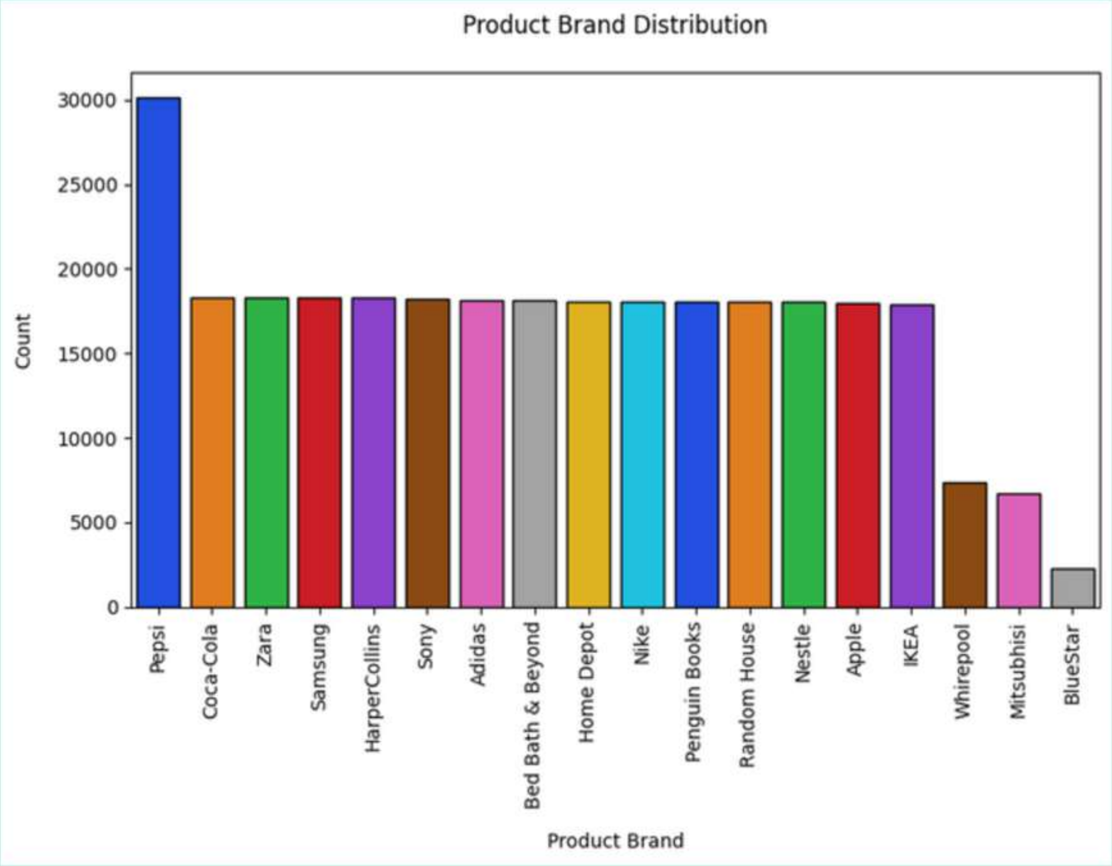
- This slide provides an overview of country representation in the data, with a bar chart for overall counts and a donut chart illustrating the top 5 countries proportionally. The USA leads by a considerable margin, followed by the UK, Germany, Australia, and Canada. The proportional chart reveals that the USA constitutes nearly a third of the data, highlighting its dominance, while the other four countries represent smaller, yet substantial portions of the dataset.

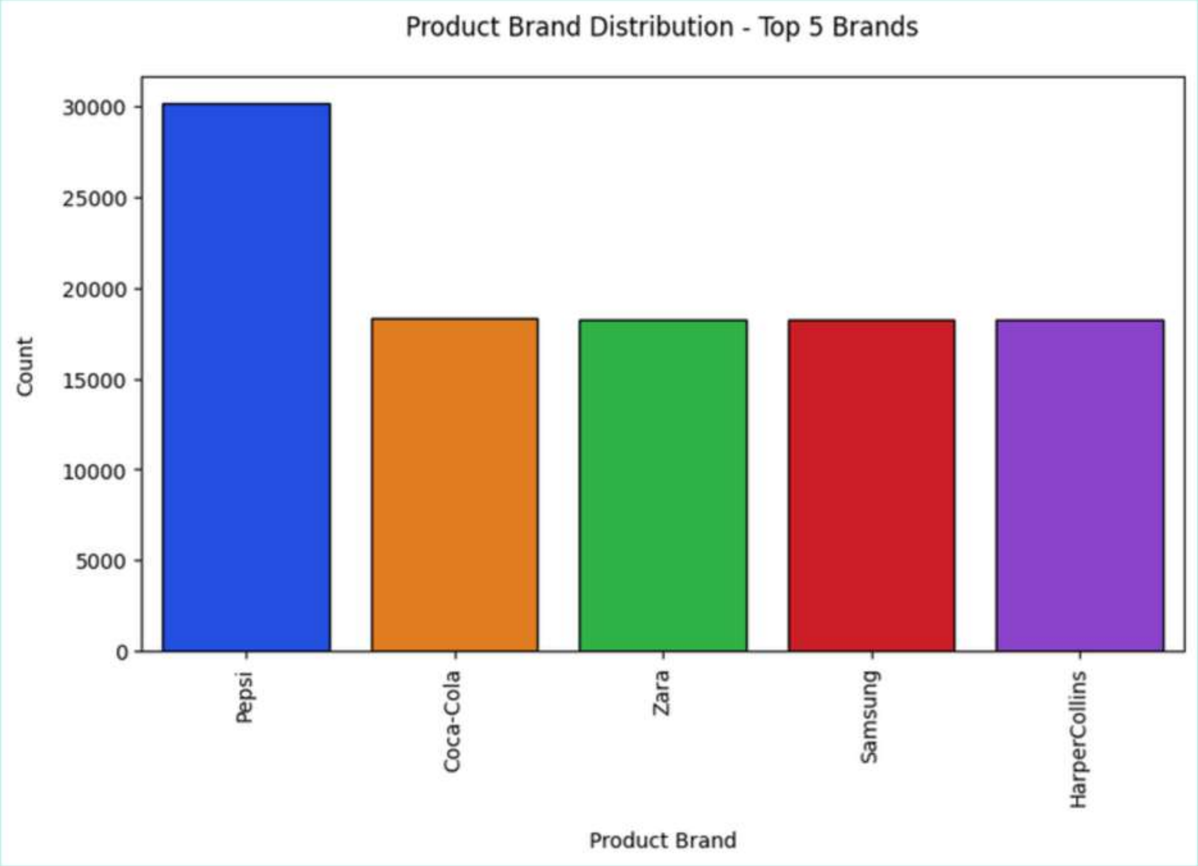
DISTRIBUTION OF PRODUCT CATEGORY

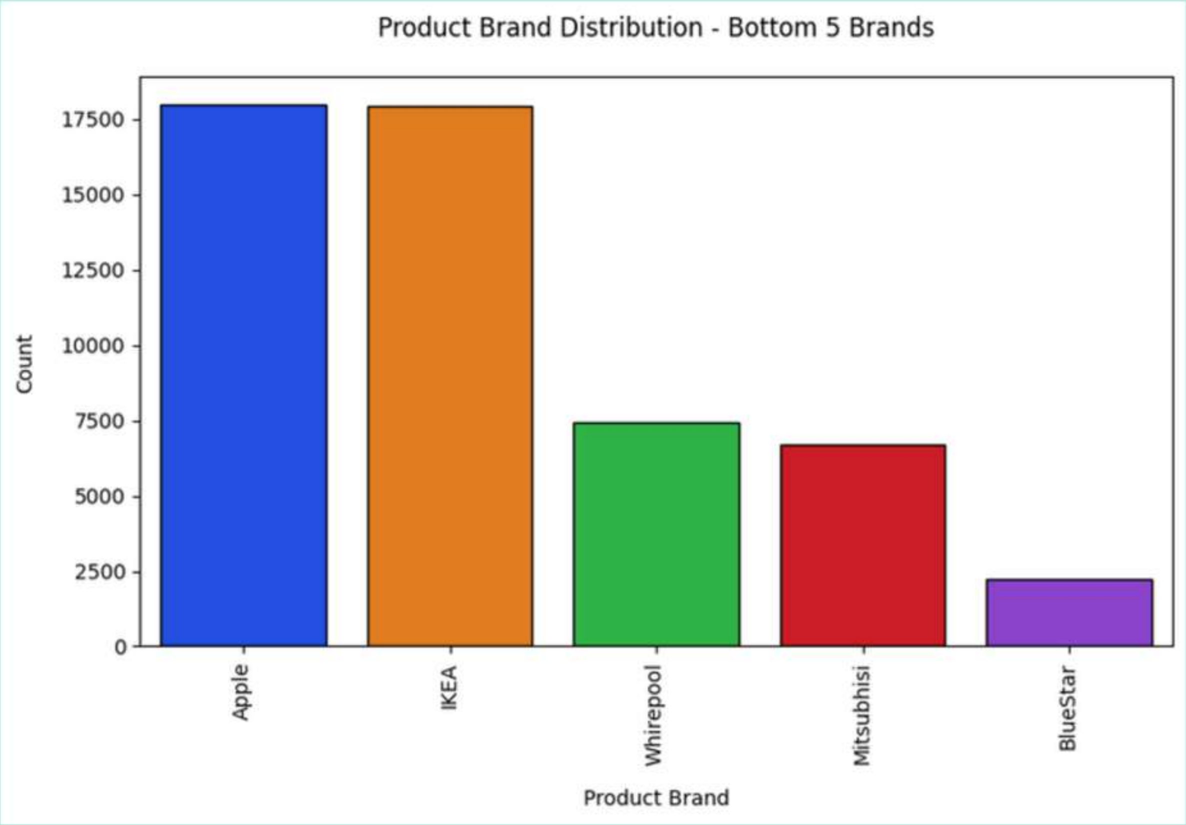


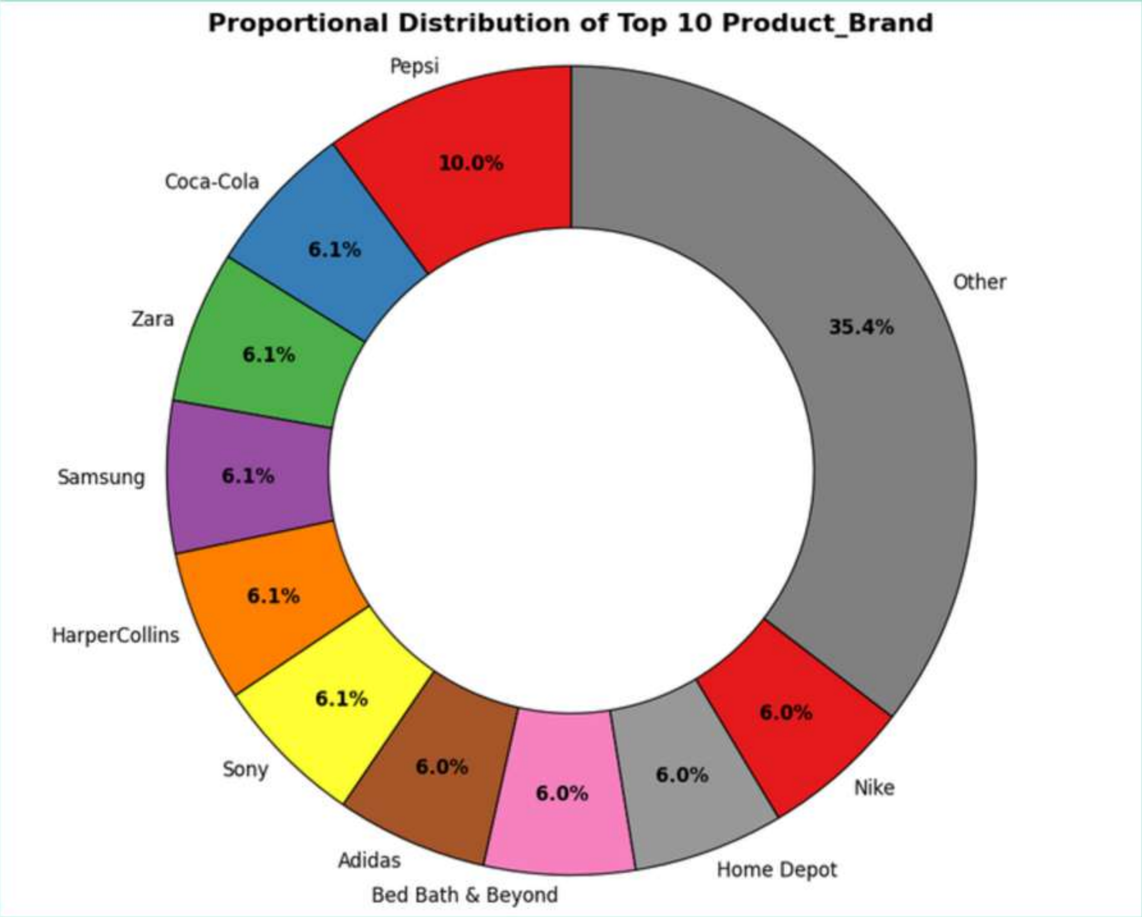


DISTRIBUTION OF BRANDS

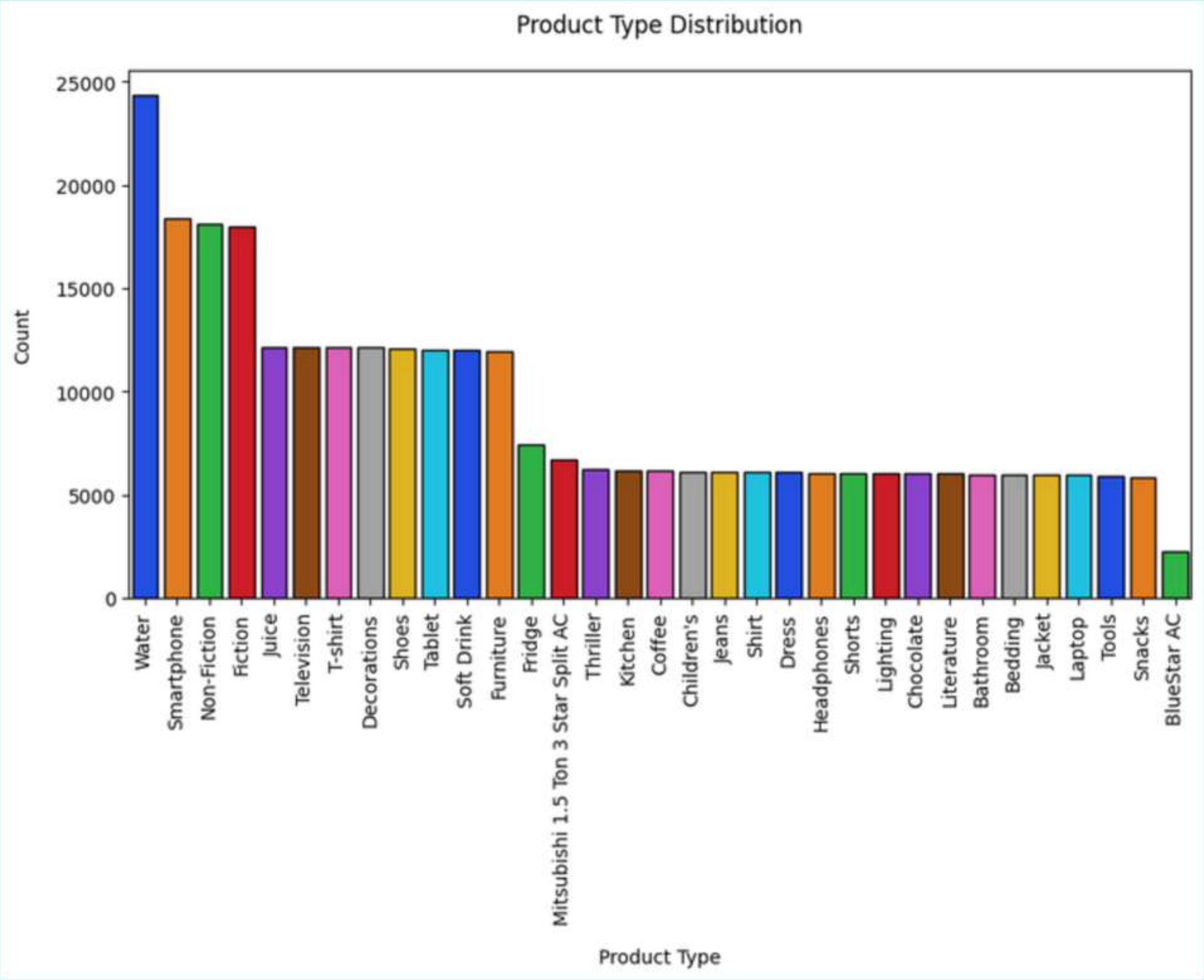


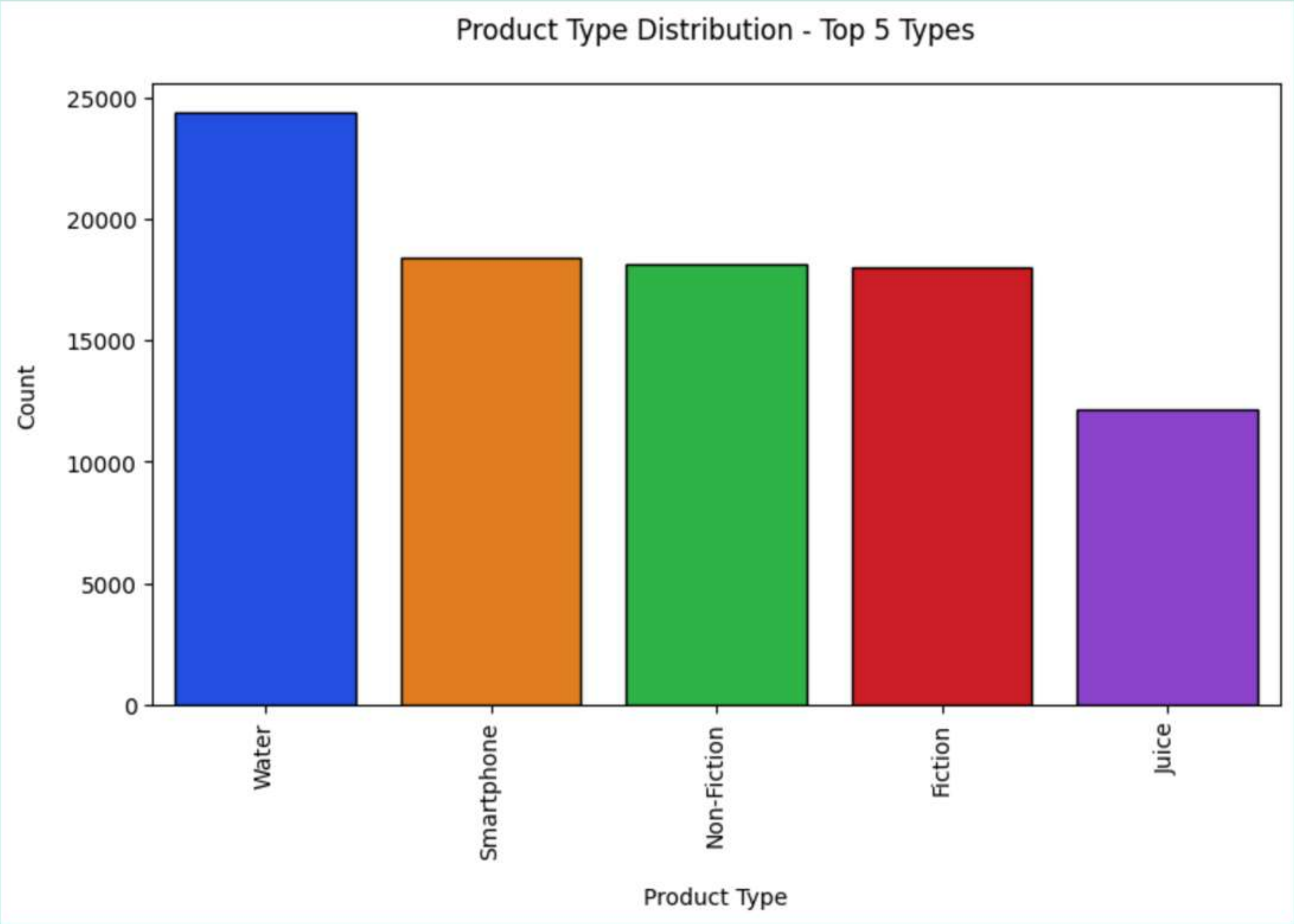


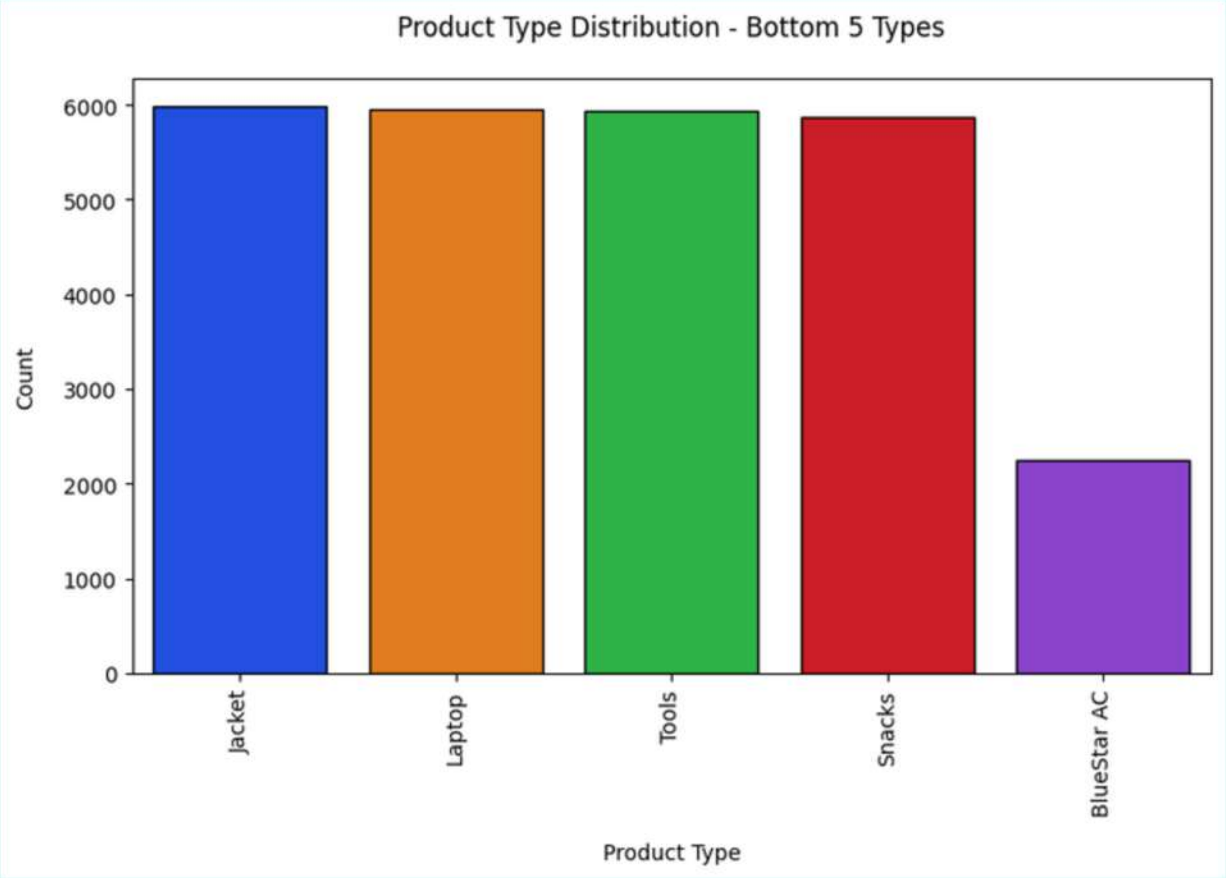


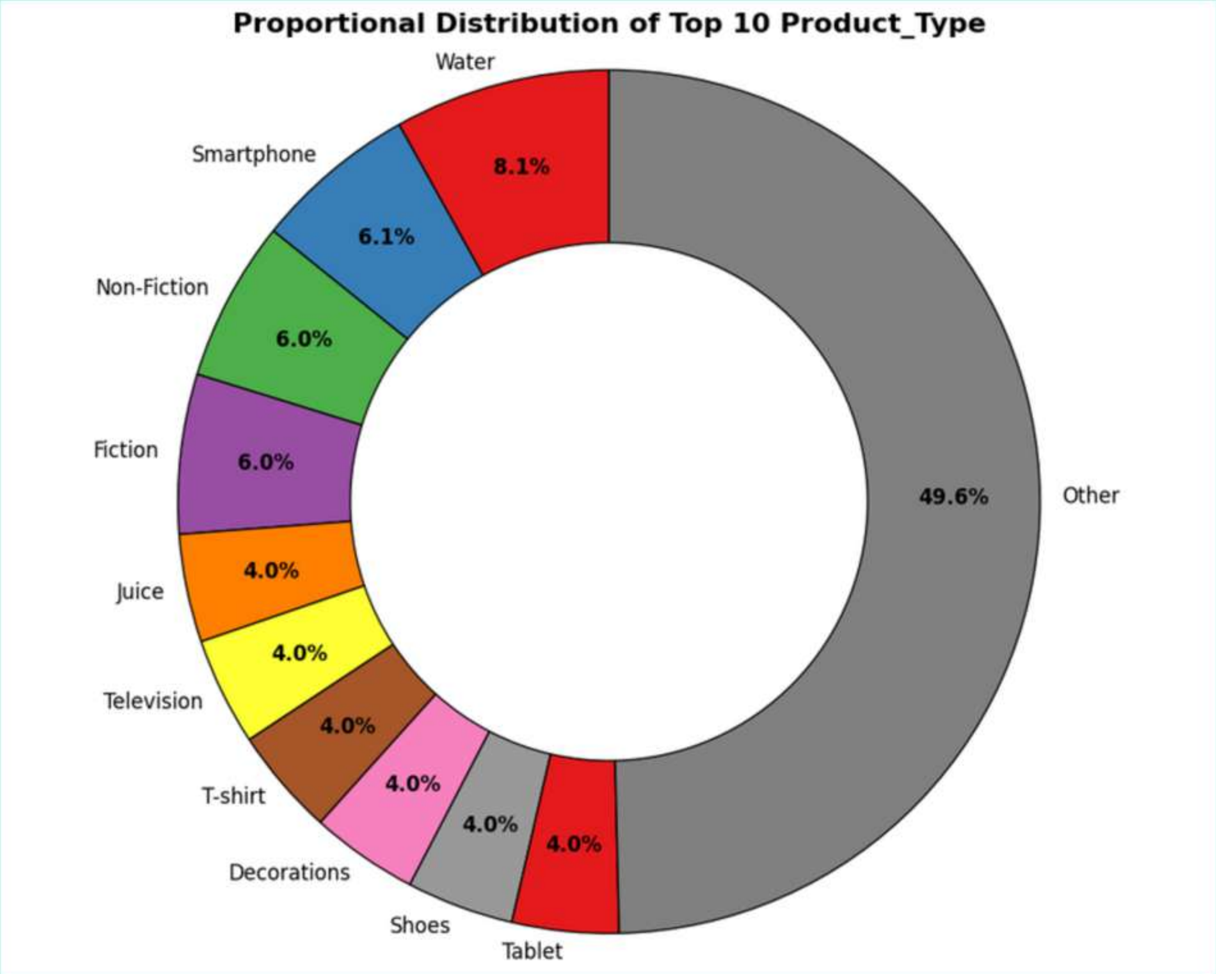


DISTRIBUTION OF PRODUCT TYPES

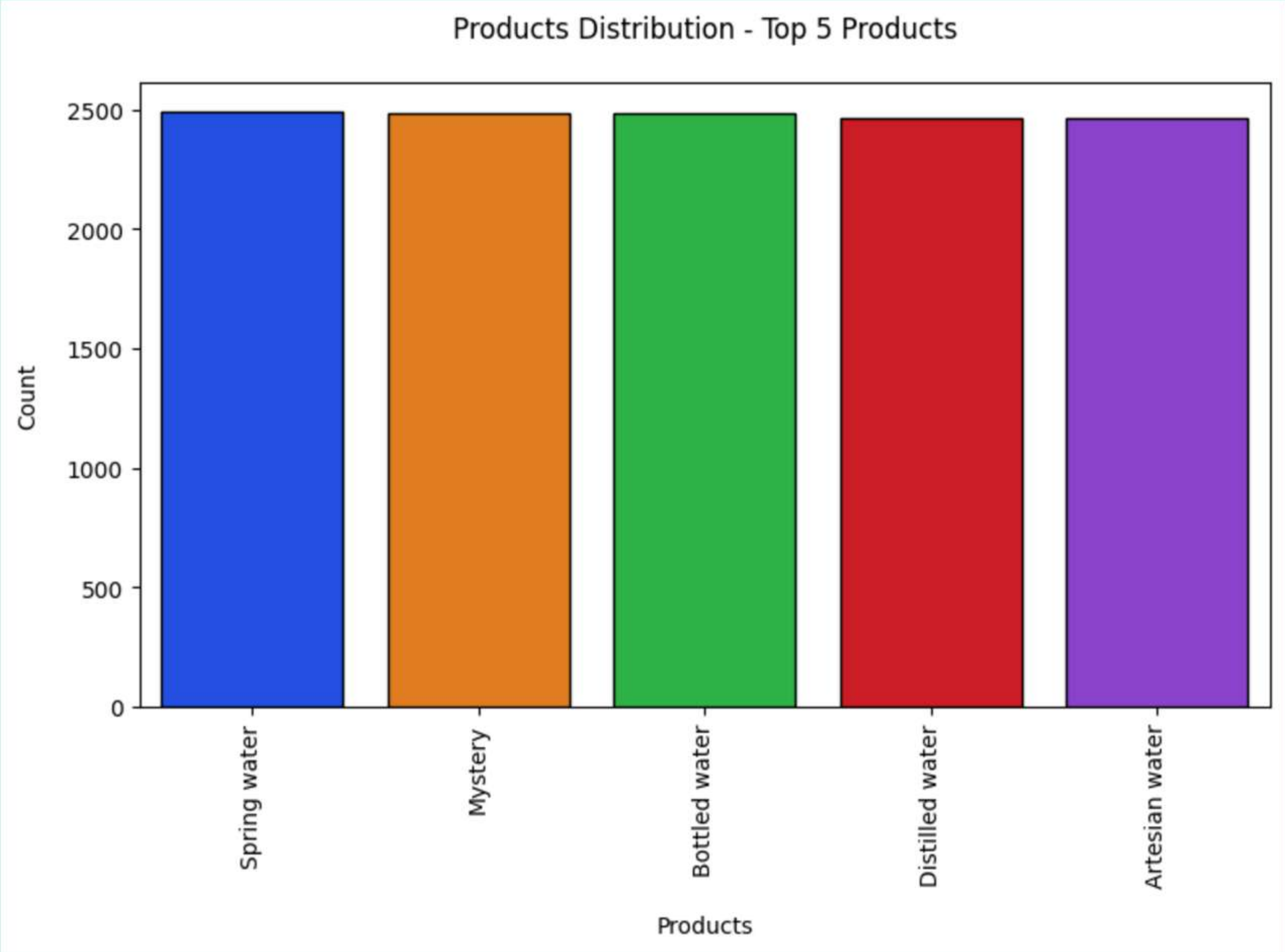


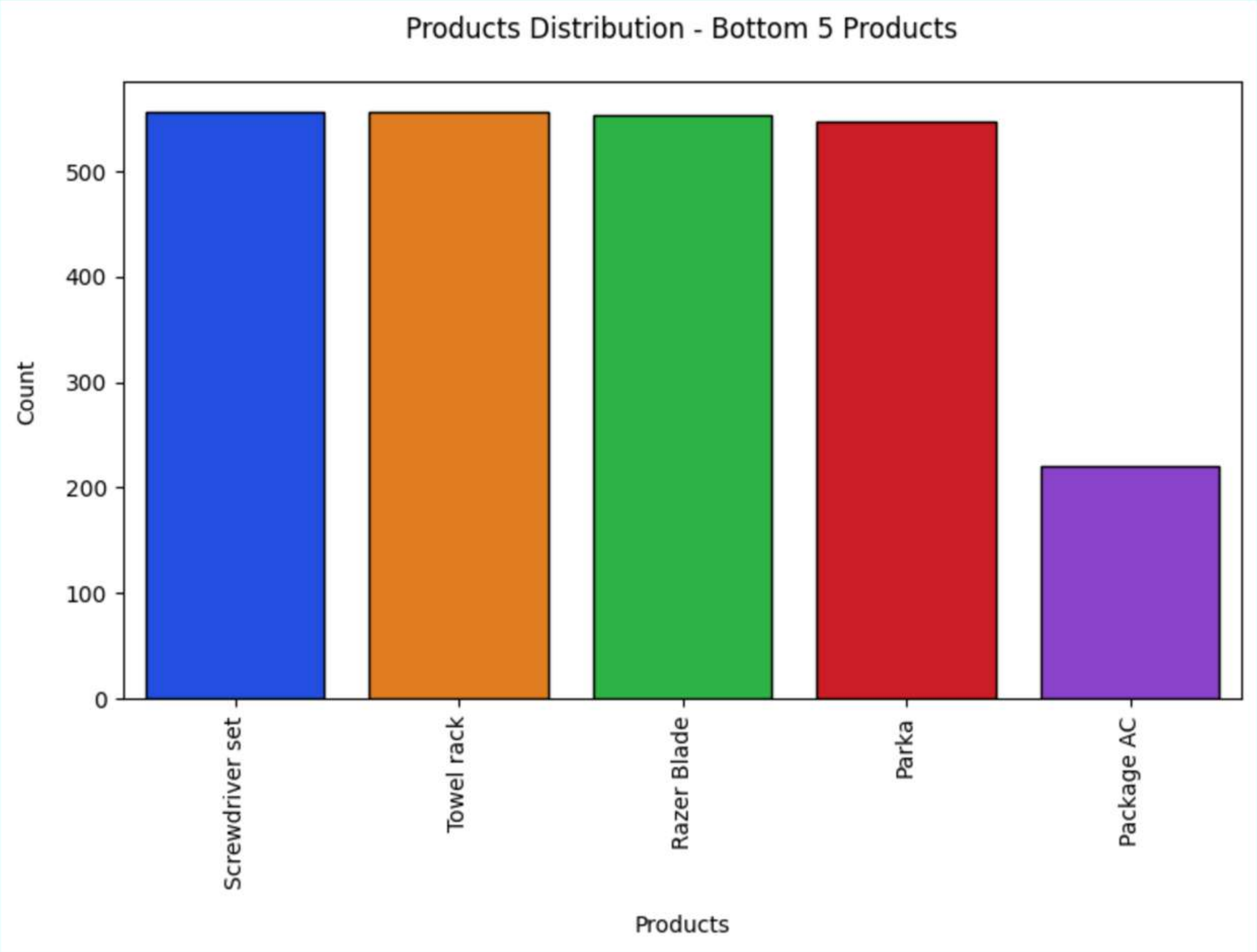






DISTRIBUTION OF PRODUCTS





Overview

DISTRIBUTION OF PRODUCT CATEGORY

- This slide displays the distribution across the top five product categories using both a bar chart and a proportional donut chart. Electronics and Grocery have the highest counts, closely followed by Clothing and Books, with Home Decor having the lowest among these major categories. The donut chart further clarifies that Electronics and Grocery each make up over one-fifth of the dataset, while Home Decor accounts for just under a fifth, indicating a relatively balanced product category mix with slight dominance of certain groups.

DISTRIBUTION OF BRANDS

- This slide explores the frequency of product brands within the dataset using several visualizations: a complete bar chart, top and bottom five brand bar charts, and a donut chart summarizing the top 10 brands proportionally. Pepsi stands out as the leading brand, followed by Coca-Cola, Zara, Samsung, and HarperCollins among the top five, while brands like Maggi and Reebok are least represented. The donut chart underscores Pepsi's prevalence, but also shows significant contributions from other brands, with the "Other" category collectively representing the largest portion of brand diversity in the data.

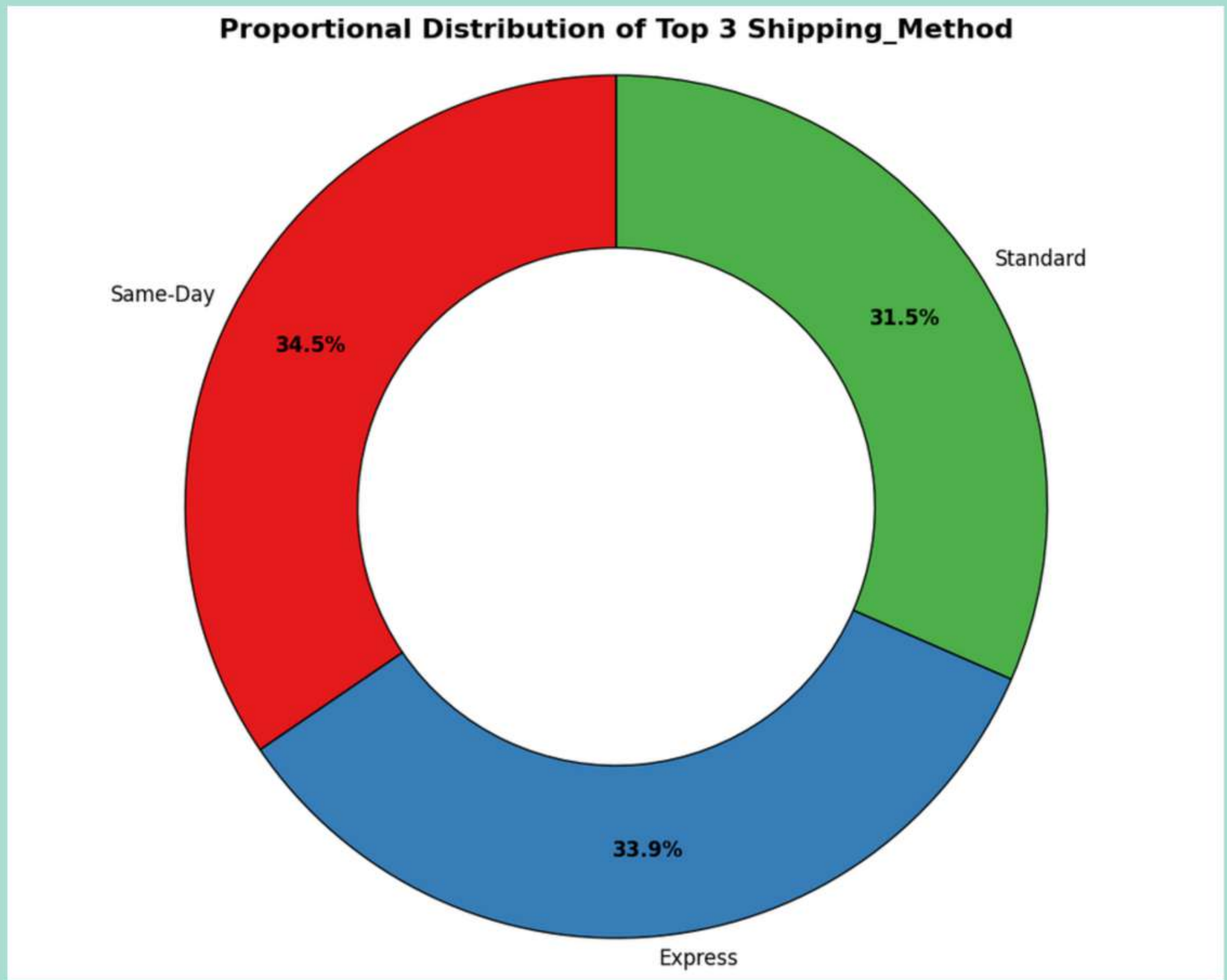
DISTRIBUTION OF PRODUCT TYPES

- This slide presents product type analysis using overall, top five, and bottom five bar charts, plus a donut chart for top ten product types. Water is the most frequent product type, far ahead of others like Smartphone, Non-Fiction, Fiction, and Juice. The bottom five types—Jacket, Laptop, Tools, Shoes, and Package AC—appear much less often, indicating niche interest or limited inventory. The donut chart highlights the strong leading share of water products, with "Other" types together making up nearly half of all product type records, demonstrating a high degree of variety.

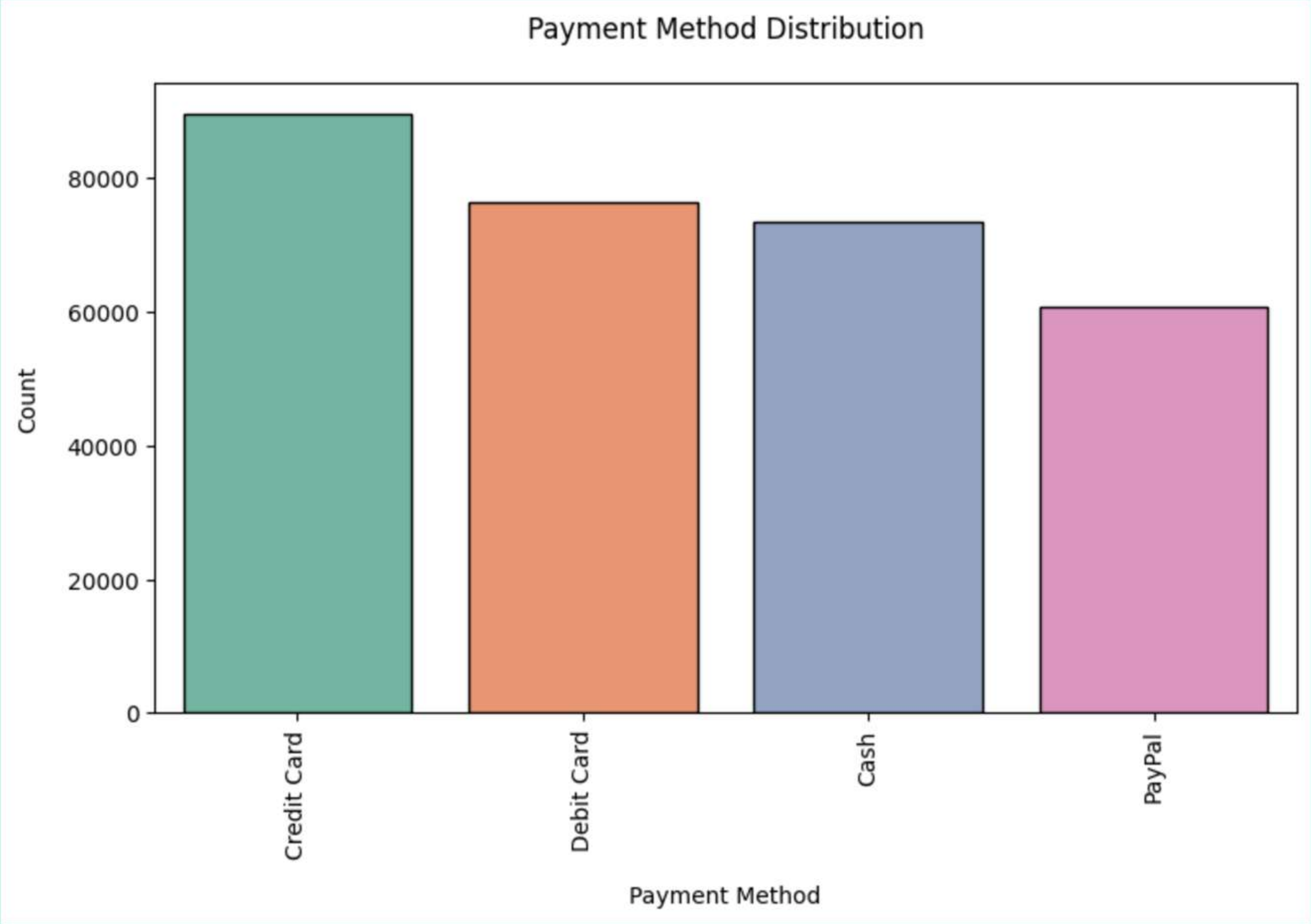
DISTRIBUTION OF PRODUCTS

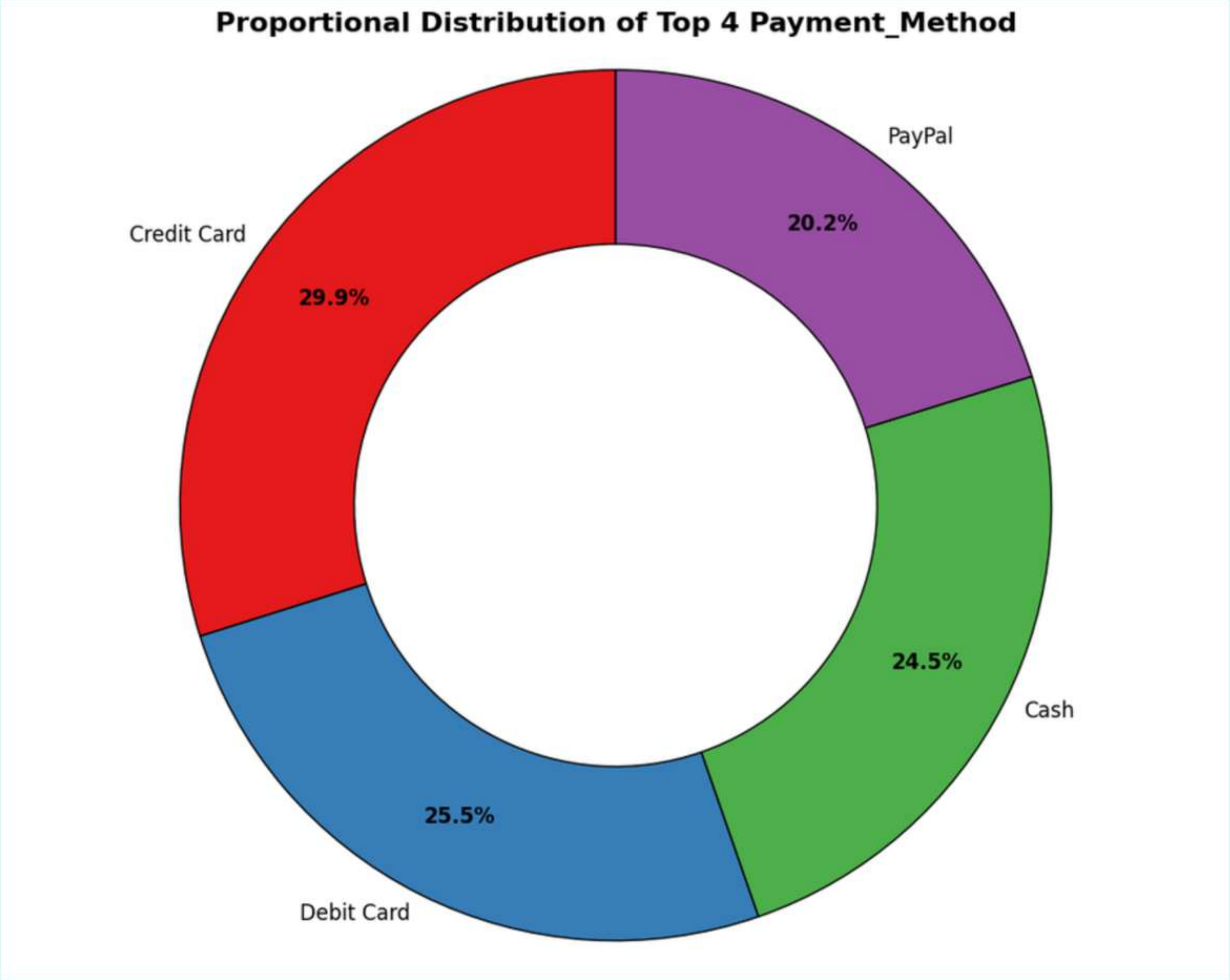
- This slide details the specific product distribution, showing counts for the top and bottom five products through side-by-side bar charts. The leading products—Spring Water, Synergy, Bottled Water, Distilled Water, and Artesian Water—have almost equal high counts, reflecting strong consumer demand for these beverages. The least popular items, including Sunflower Seat, Towel Rack, Razor Blade, Refija, and Package AC, show significantly lower counts, with Package AC notably trailing the rest, suggesting much lower demand for these products.

DISTRIBUTION OF SHIPPING METHOD

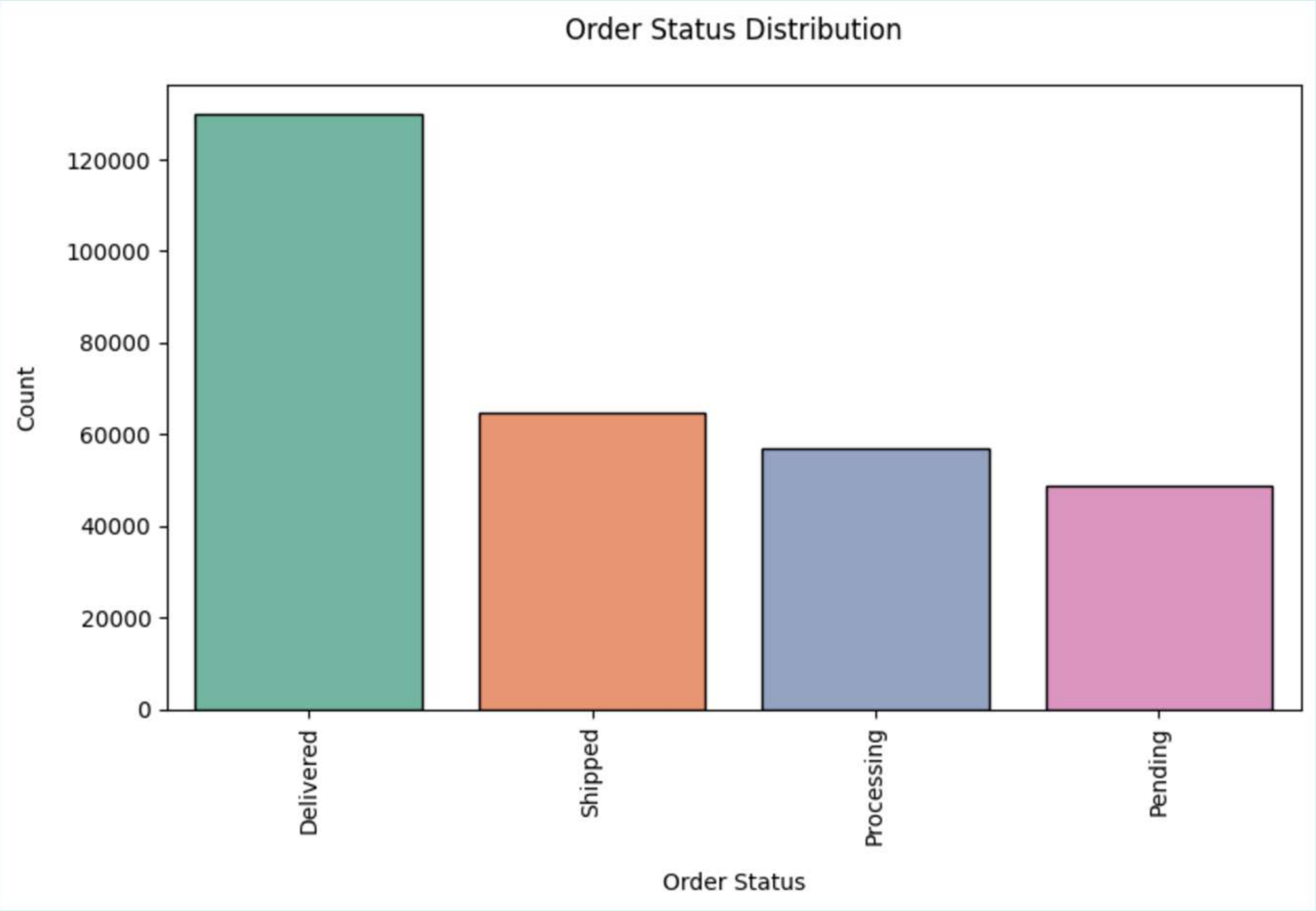


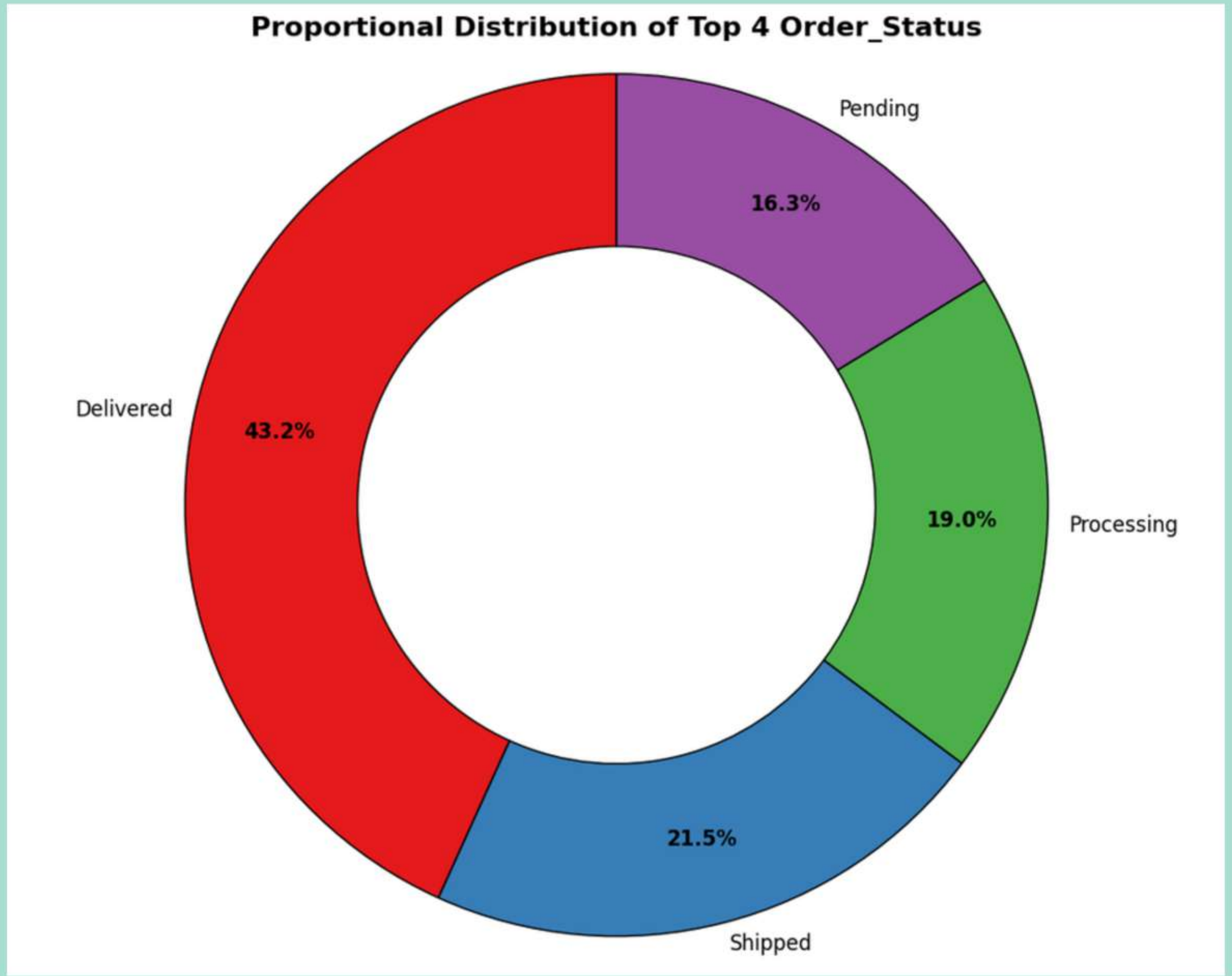
DISTRIBUTION OF PAYMENT METHOD



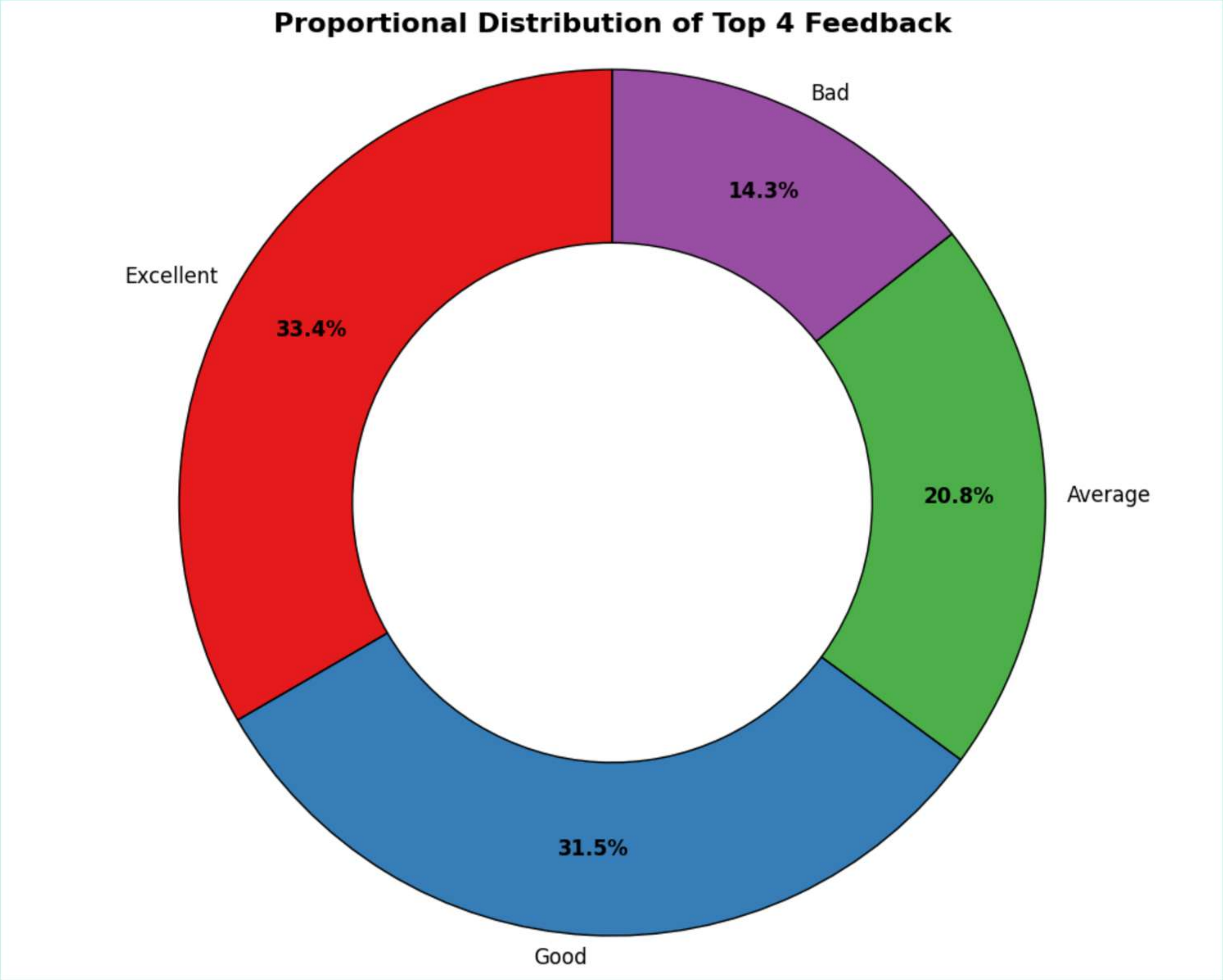


DISTRIBUTION OF ORDER STATUS





DISTRIBUTION OF FEEDBACK



Overview

DISTRIBUTION OF SHIPPING METHOD

- This slide compares the popularity of shipping methods using both a bar chart and a proportional donut chart. Same-Day shipping is slightly more common than Express and Standard methods, but all three have similar counts indicating balanced customer preferences across speed options. The donut chart shows that Same-Day, Express, and Standard collectively account for nearly equal shares, reinforcing the balance in shipping choices.

DISTRIBUTION OF PAYMENT METHOD

- This slide examines the payment method selection by customers with a bar chart and a donut chart for the top four payment types. Credit Card emerges as the most used payment method, followed by Debit Card and Cash, while PayPal is less frequent but still significant. The proportional chart highlights Credit Card as the leader, with Debit Card and Cash also playing substantial roles, while PayPal covers a smaller segment of the transactions.

DISTRIBUTION OF ORDER STATUS

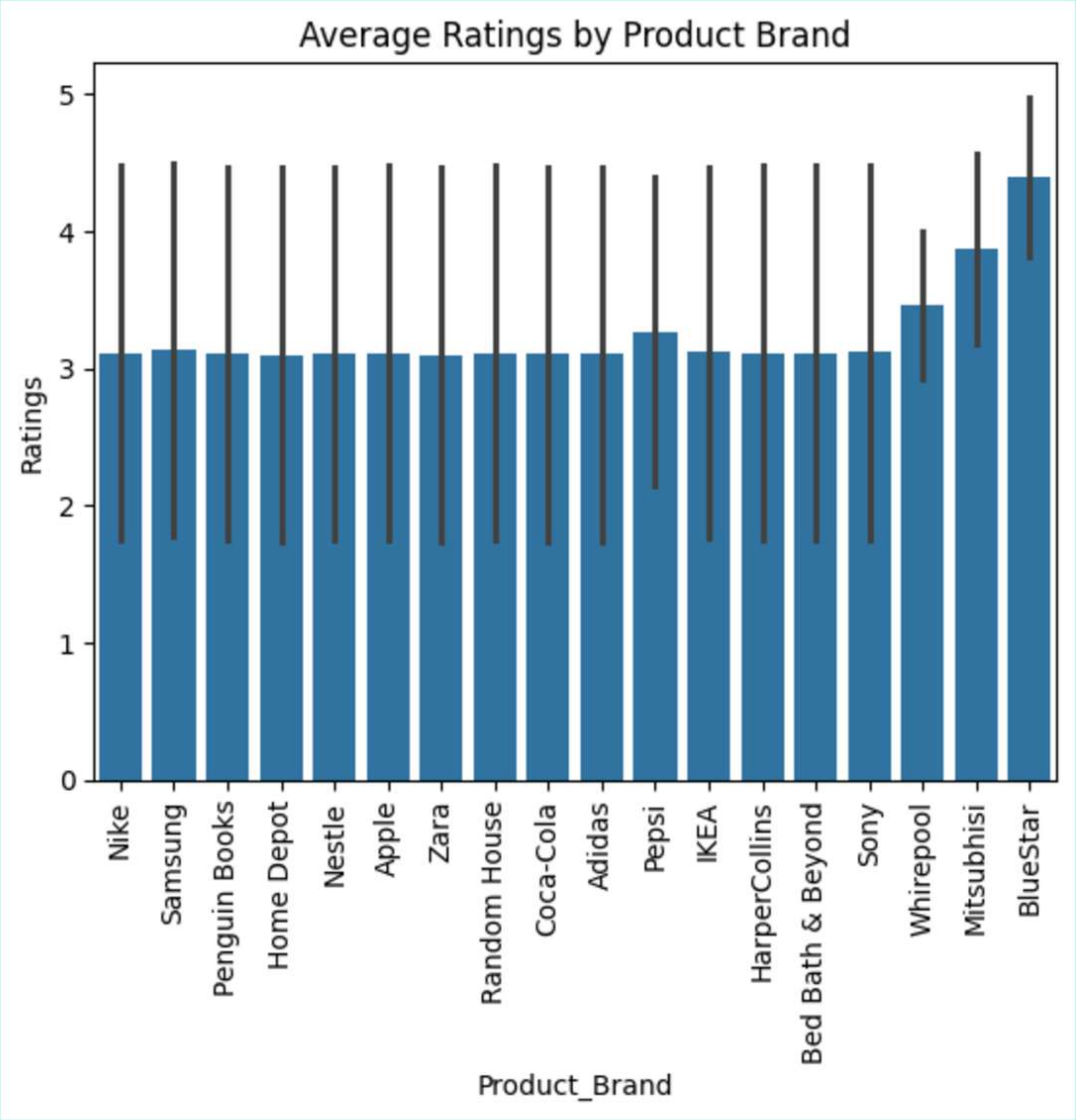
- Order status breakdown is displayed with a bar chart and a donut chart showing proportions of the top four statuses. Delivered orders make up the bulk of the data, with Shipped and Processing at moderate levels, and Pending being the least common status among these top categories. The donut chart emphasizes that Delivered status dominates, accounting for nearly half of all orders, with the rest shared between Shipped, Processing, and Pending.

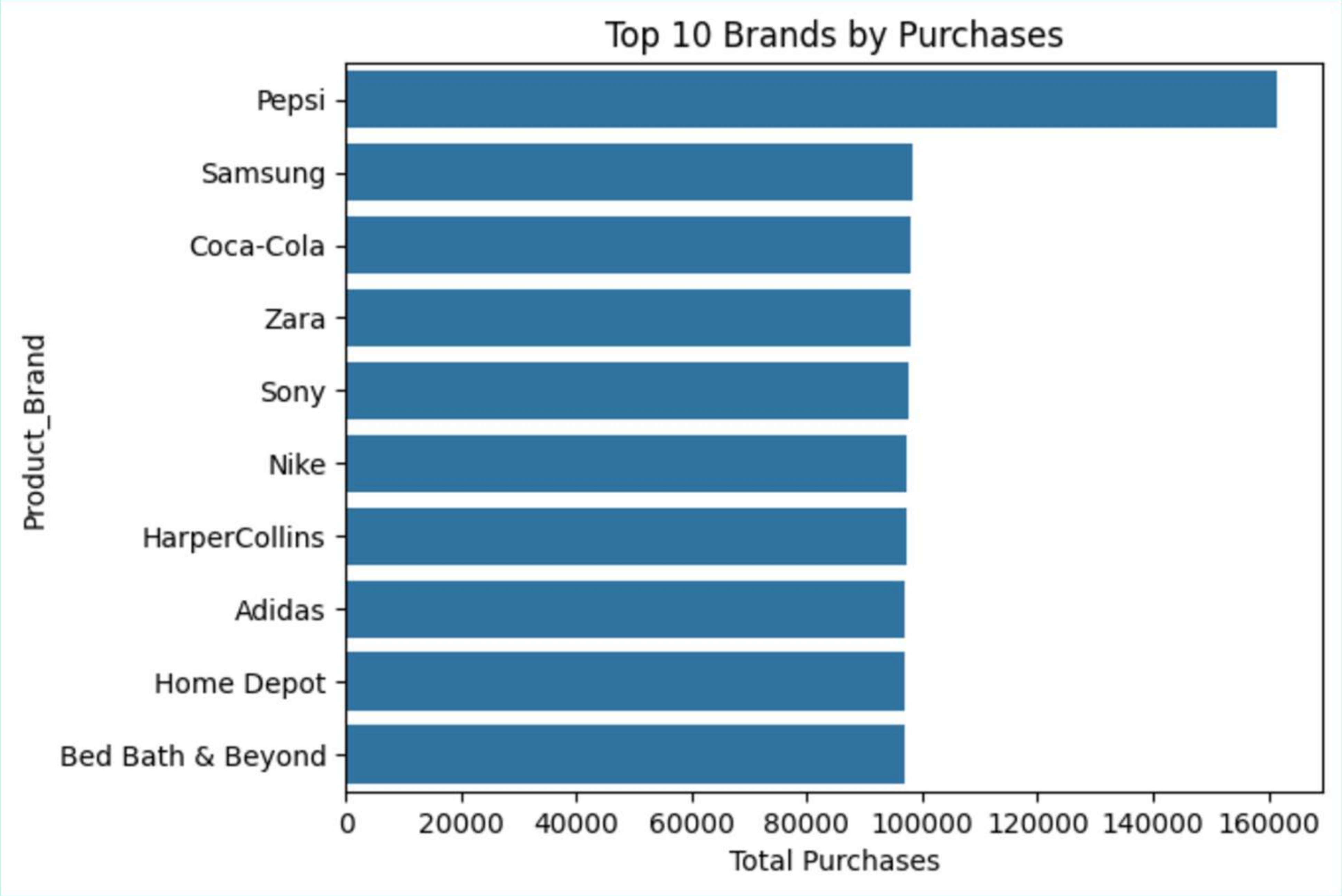
DISTRIBUTION OF FEEDBACK

- This slide presents customer feedback via a donut chart covering the four main feedback ratings. Excellent feedback is given most frequently, followed closely by Good, with Average and Bad ratings trailing behind. This indicates a generally high level of customer satisfaction, as positive feedback vastly outnumbers negative or average responses.

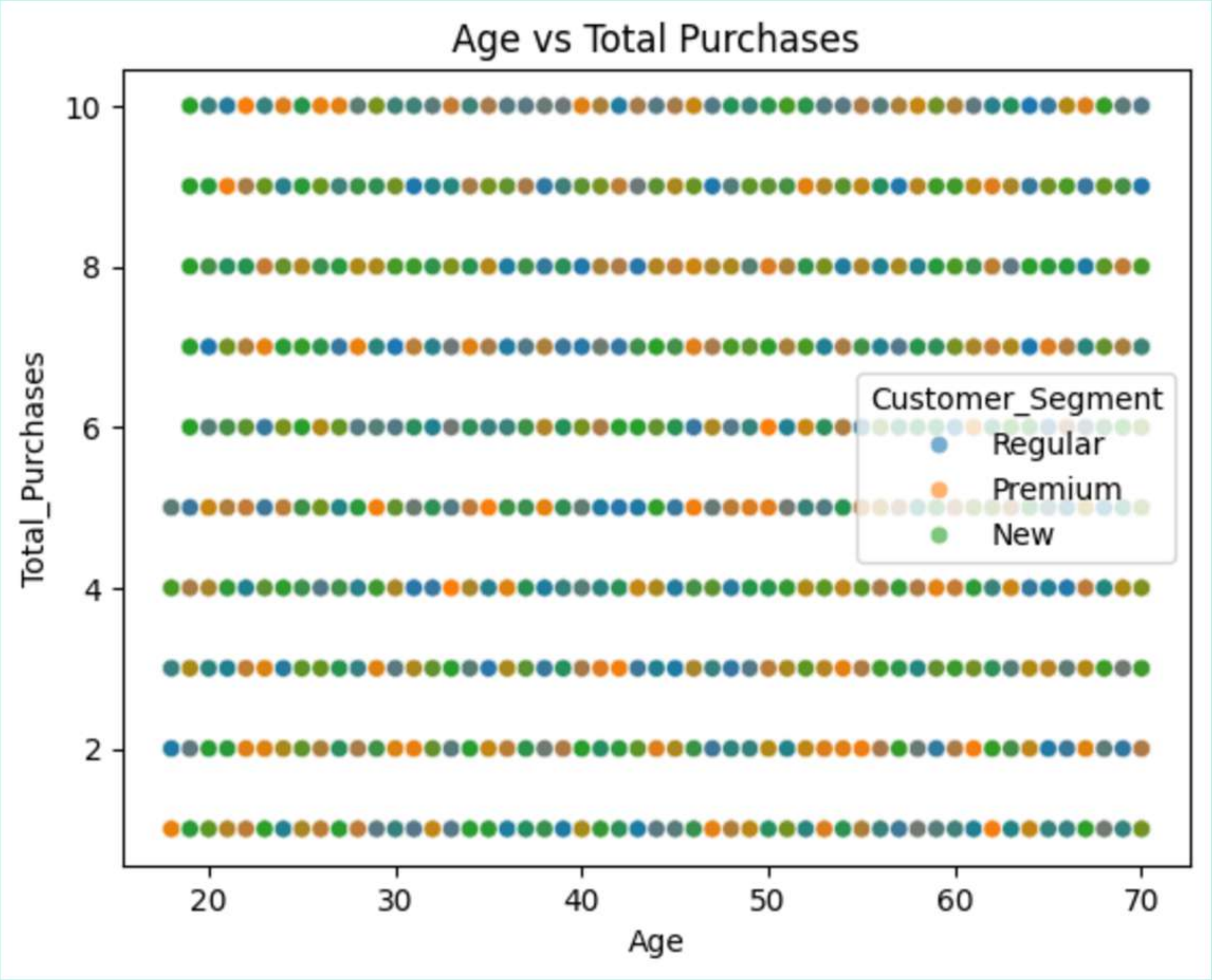
Visualization of Bivariate Analysis

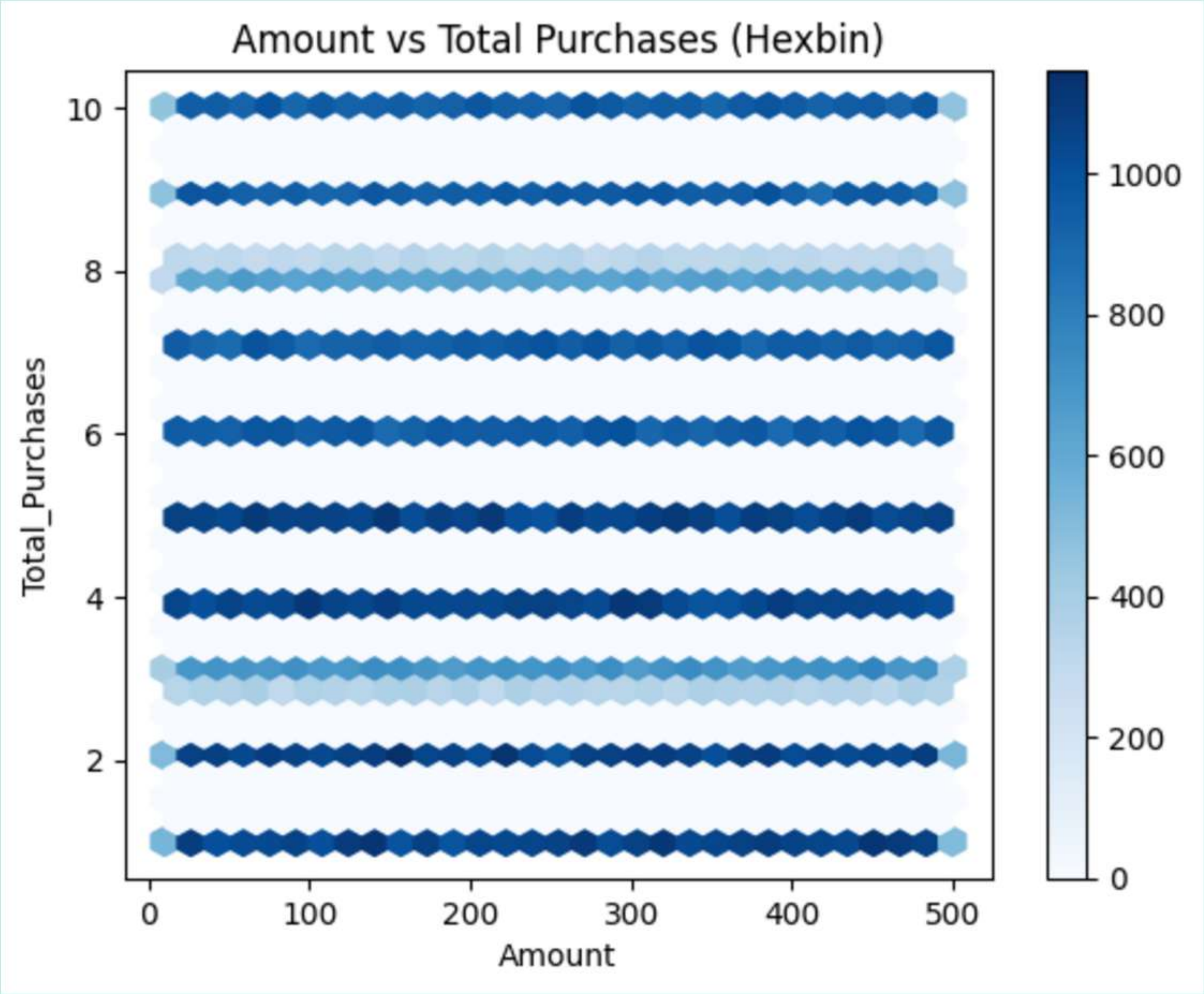
ANALYSIS ON BRANDS



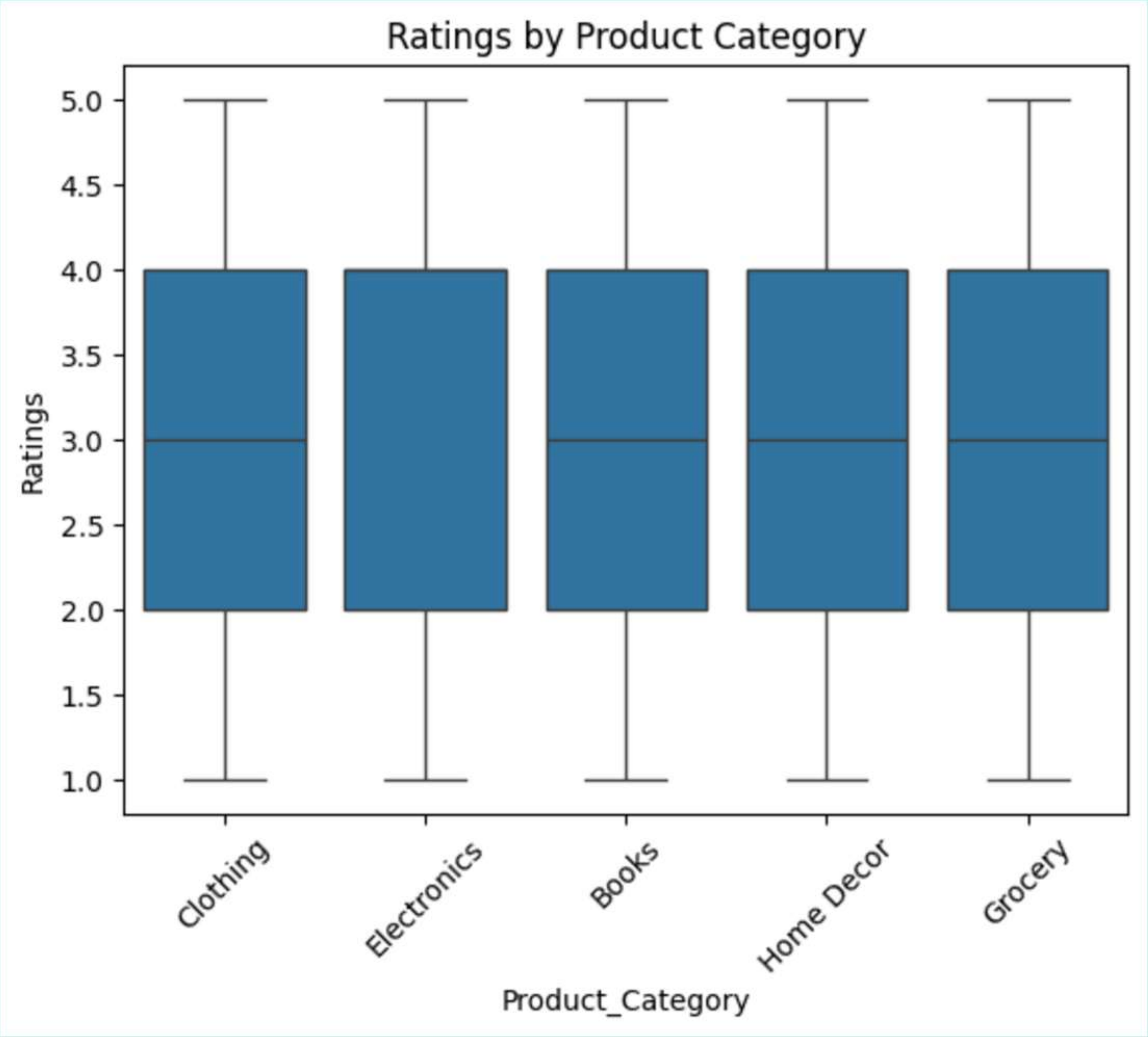


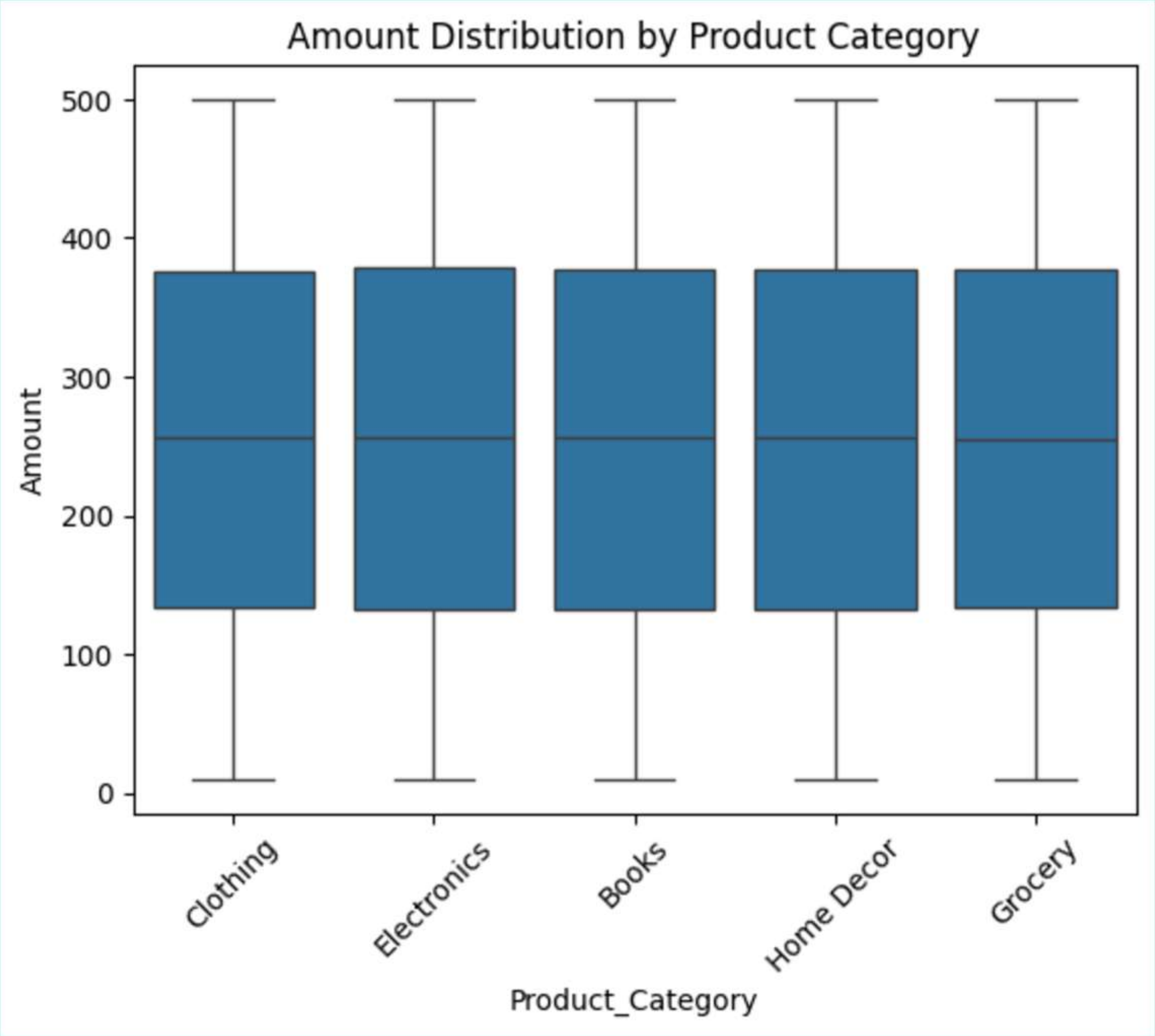
ANALYSIS ON TOTAL PURCHASES



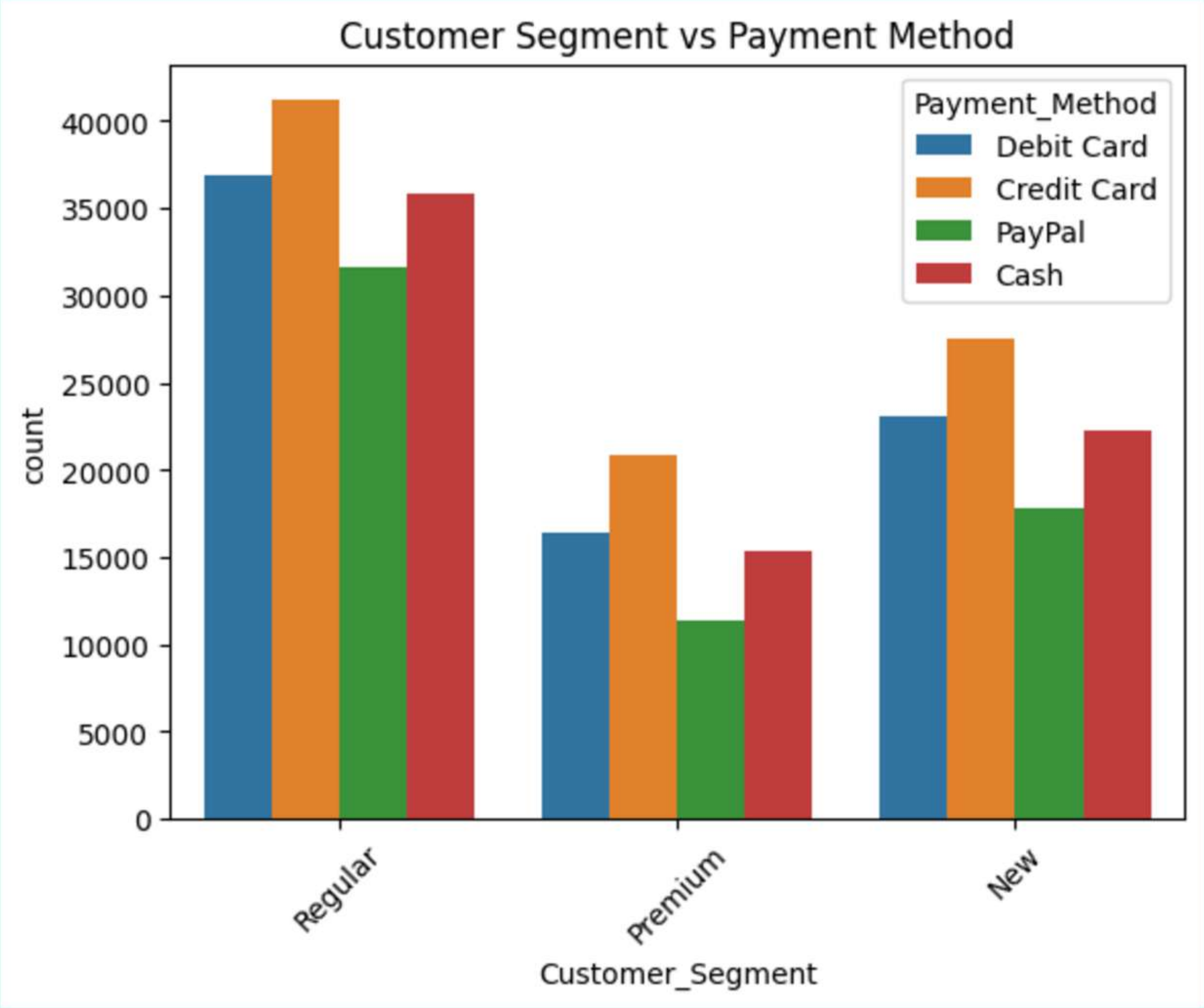


ANALYSIS ON PRODUCT CATEGORY

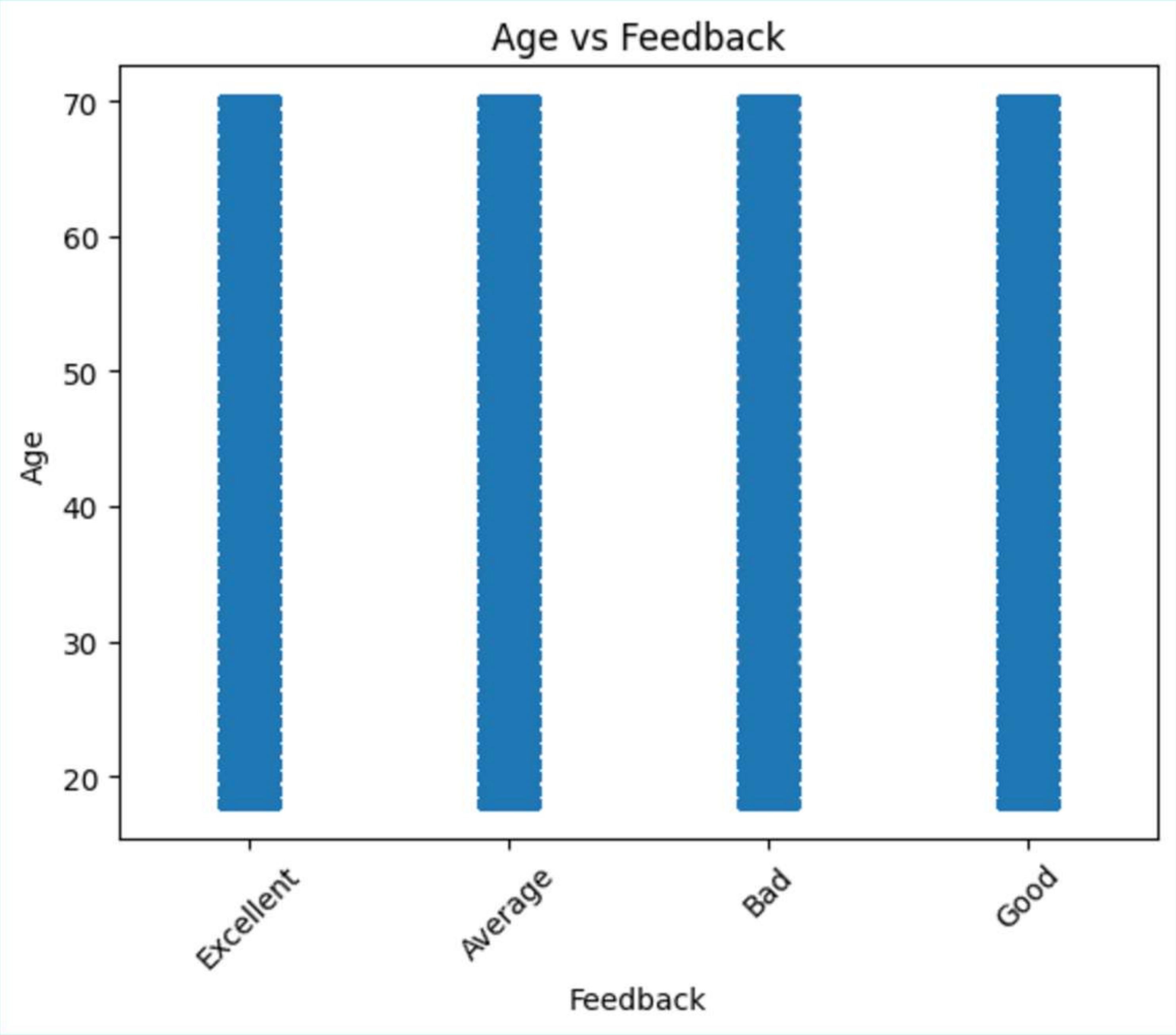


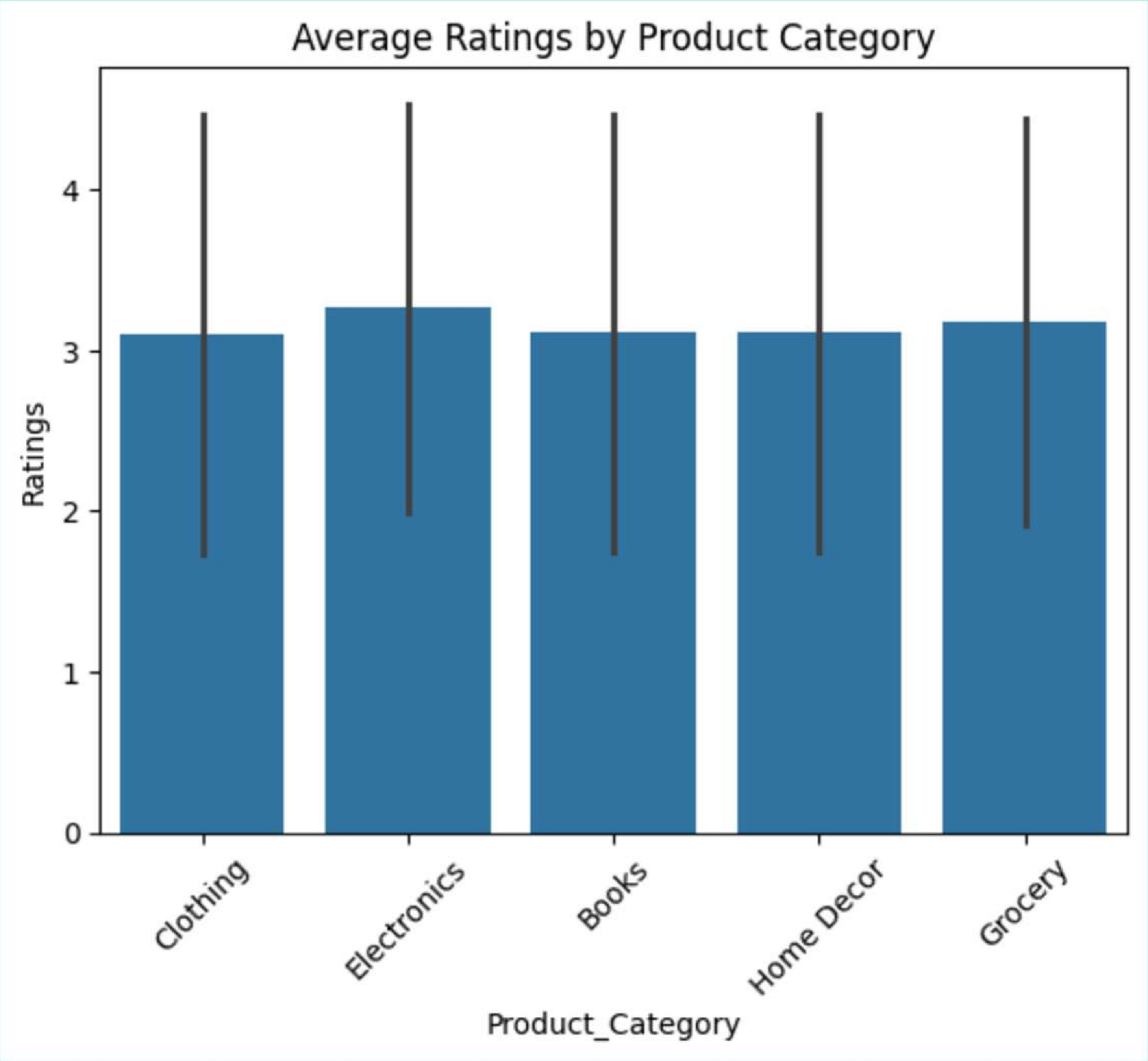


ANALYSIS ON CUSTOMER SEGMENT



ANALYSIS ON AGE AND PRODUCT CATEGORY





Overview

ANALYSIS ON BRANDS

- This slide compares product brands through average ratings and total purchases. The ratings chart reveals considerable variation across brands, with Bluestar, Mitsubishi, and Whirlpool receiving the highest scores, while many others cluster around average ratings. The purchase chart highlights Pepsi as the most purchased brand by a wide margin, followed by Samsung and Coca-Cola, with other popular brands like Zara, Sony, and Nike showing strong performance as well.

ANALYSIS ON TOTAL PURCHASES

- This slide provides insight into purchase patterns by age and amount. The left scatter plot illustrates that total purchases are spread evenly across age ranges and customer segments (Regular, Premium, New), with no single group dominating in number of purchases. The hexbin plot on the right shows the relationship between purchase amount and frequency, visualizing that higher purchase counts are evenly distributed across various amounts, indicating a balanced spending pattern among customers regardless of amount spent per transaction.

ANALYSIS ON PRODUCT CATEGORY

- Product category analysis is presented using box plots for ratings and amounts. The ratings plot demonstrates that all major categories—Clothing, Electronics, Books, Home Decor, Grocery—receive comparable ratings distributions, suggesting consistent customer satisfaction across categories. The amount distribution shows similar median and spread for transaction amounts in each category, indicating comparable purchase values for products regardless of their category.

ANALYSIS ON CUSTOMER SEGMENT

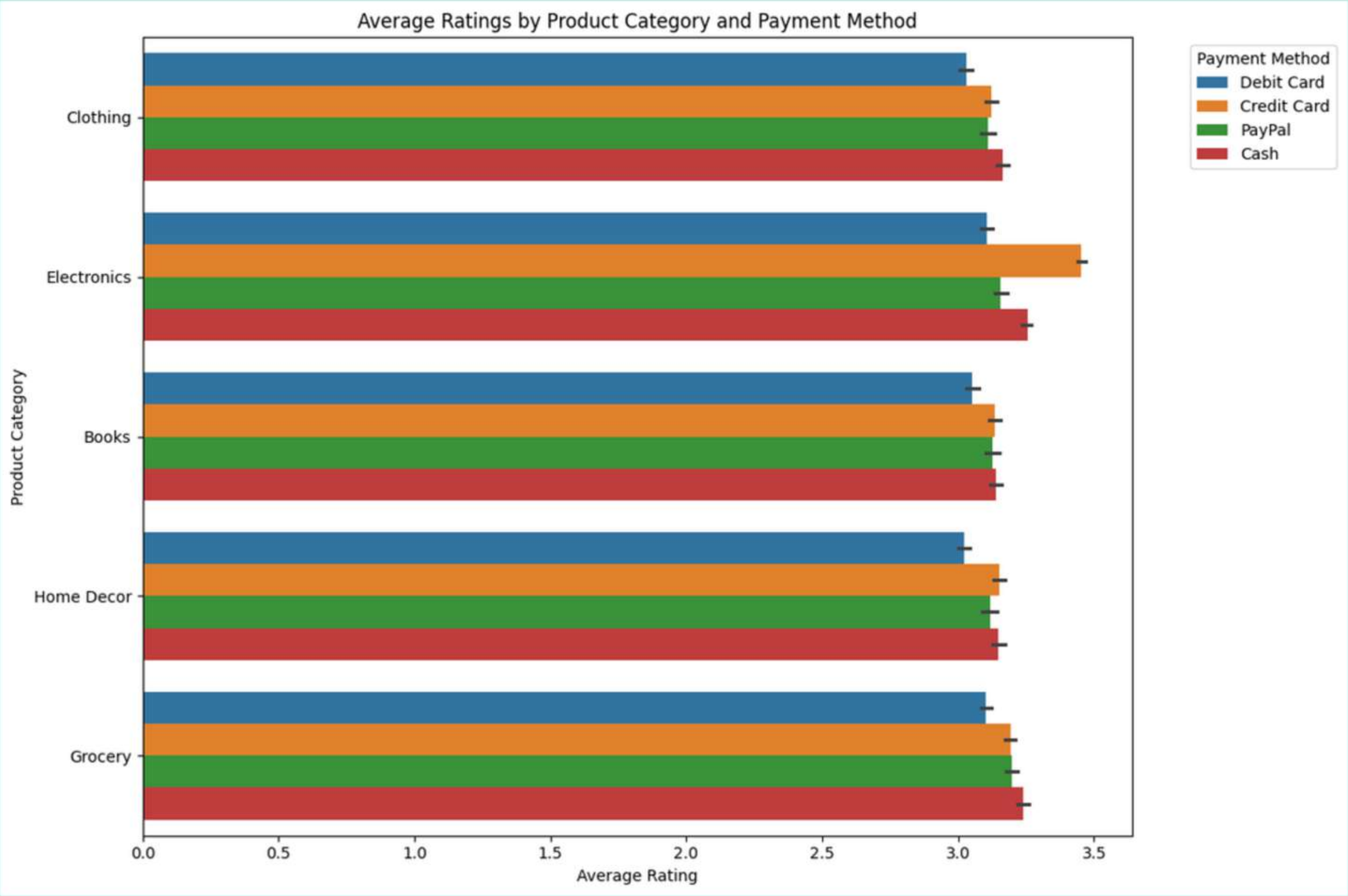
- This slide explores relationships between customer segment, payment method, and income. The payment method chart reveals that Regular customers use Debit Card and Cash most frequently, while Premium customers favor Debit Card and Credit Card, and New customers use various methods fairly evenly. The income distribution plot displays that all segments contain a mix of low, medium, and high-income customers, indicating no strong segmentation by income within the customer base.

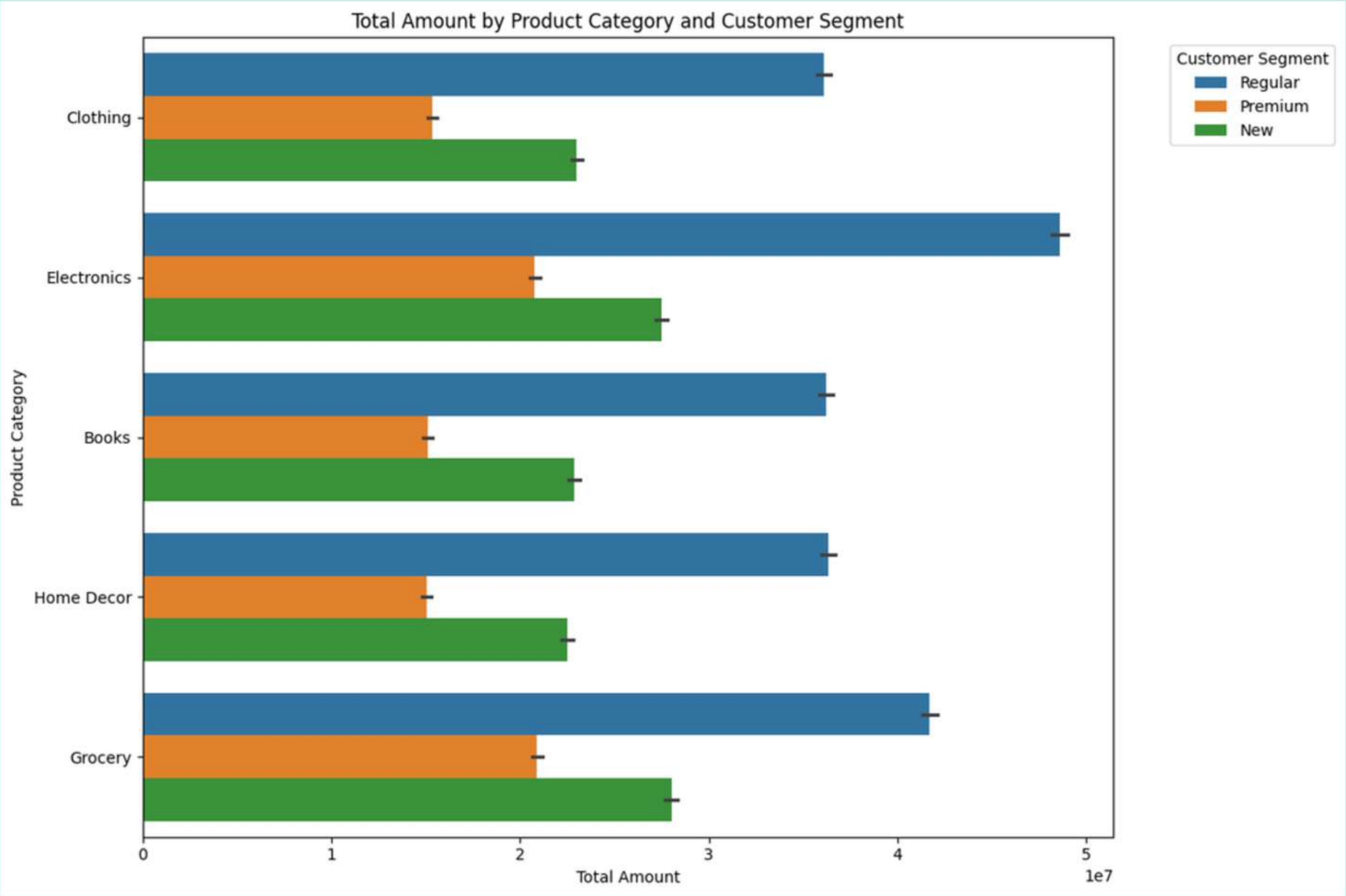
ANALYSIS ON AGE AND PRODUCT CATEGORY

- This slide examines the relationships between customer age, feedback, and product category ratings. The Age vs Feedback plot shows that feedback types (Excellent, Average, Bad, Good) are evenly distributed across the age spectrum, indicating that customer satisfaction is not strongly dependent on age and all age groups provide varied types of feedback. The Average Ratings by Product Category chart reveals that major product categories—Clothing, Electronics, Books, Home Decor, and Grocery—receive similar average ratings, with Electronics slightly higher, suggesting consistent satisfaction across categories and no major outliers in customer perception of quality.

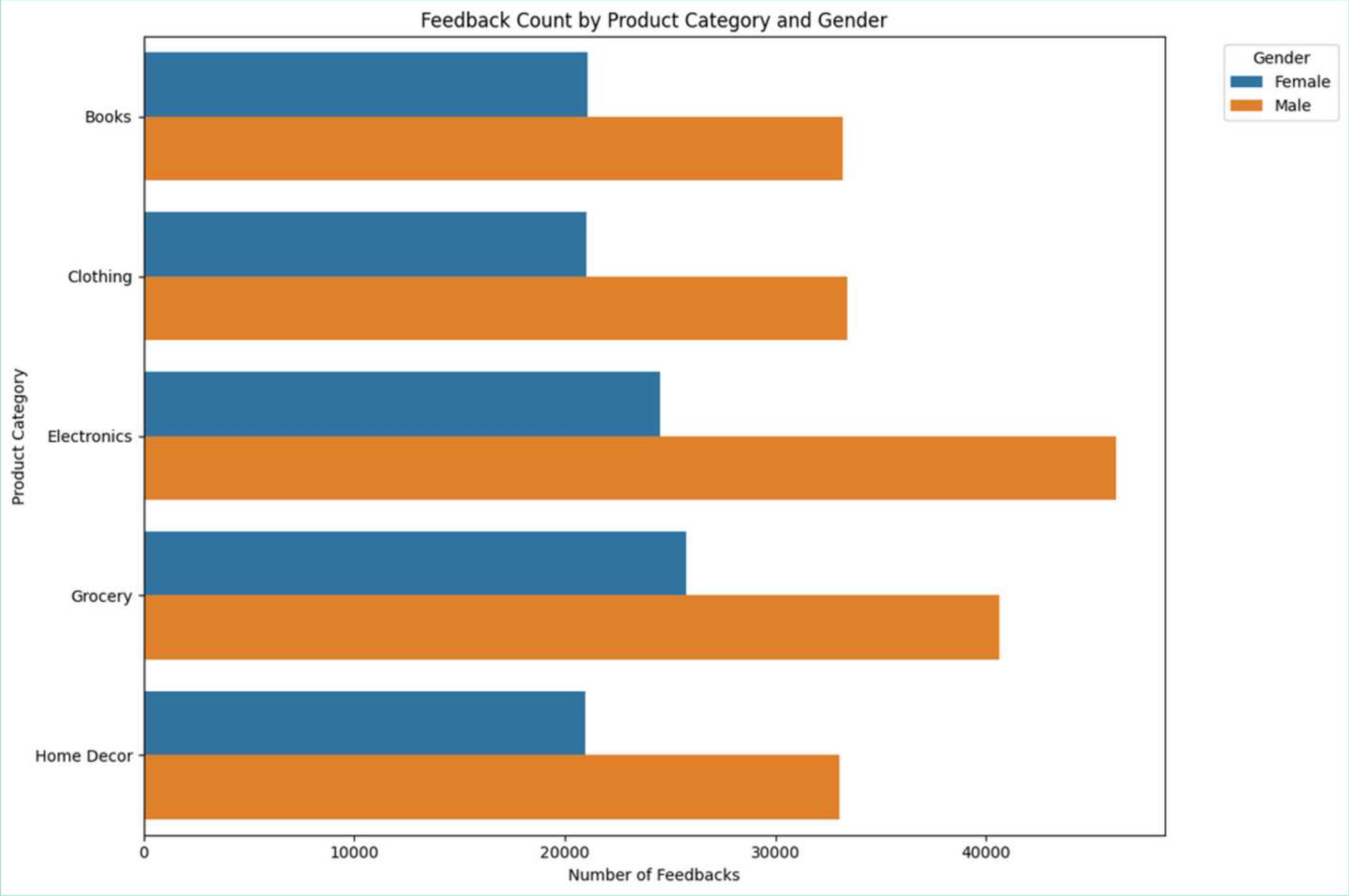
Visualization of Multivariate Analysis

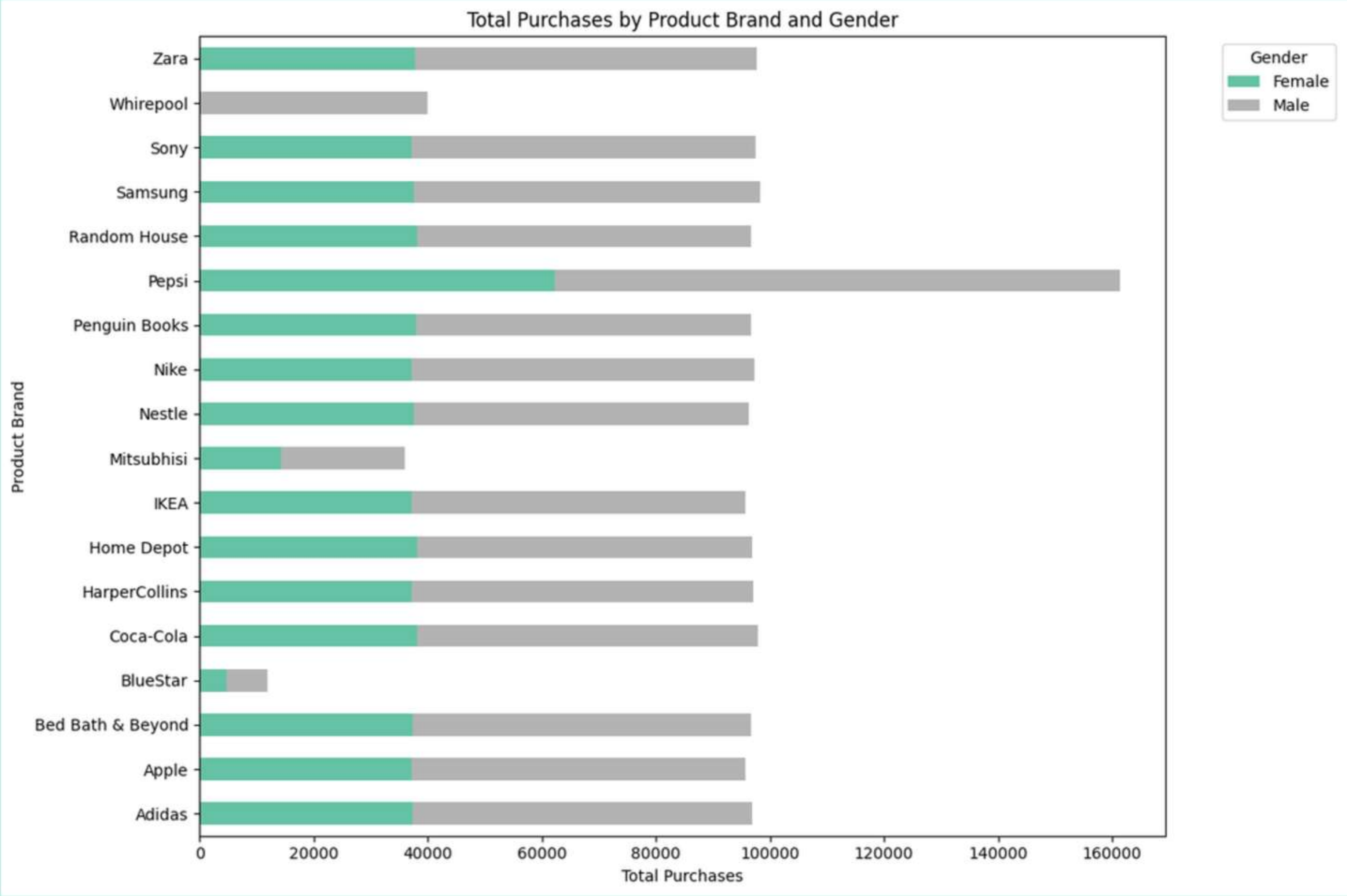
ANALYSIS ON PRODUCT CATEGORY



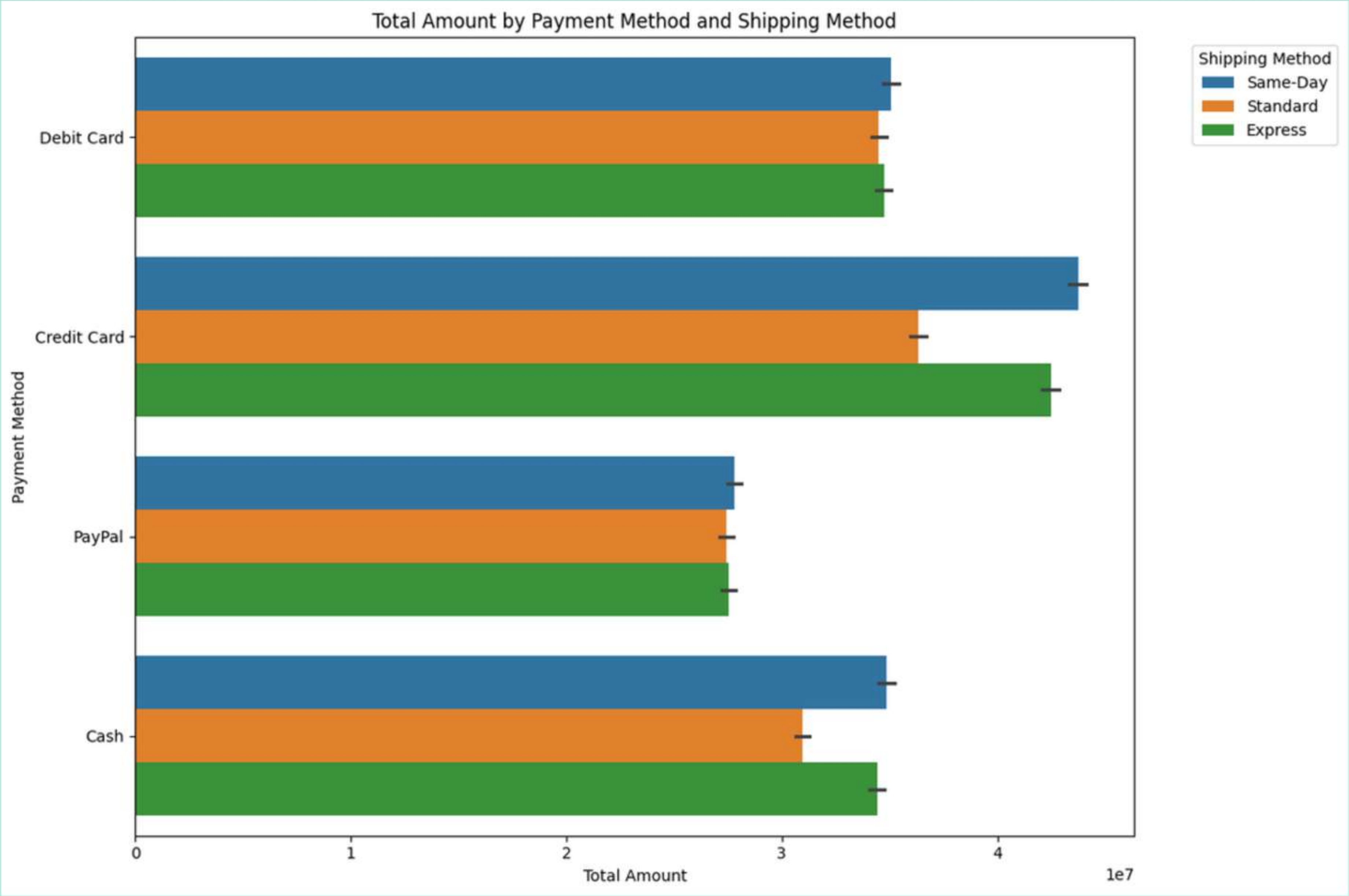


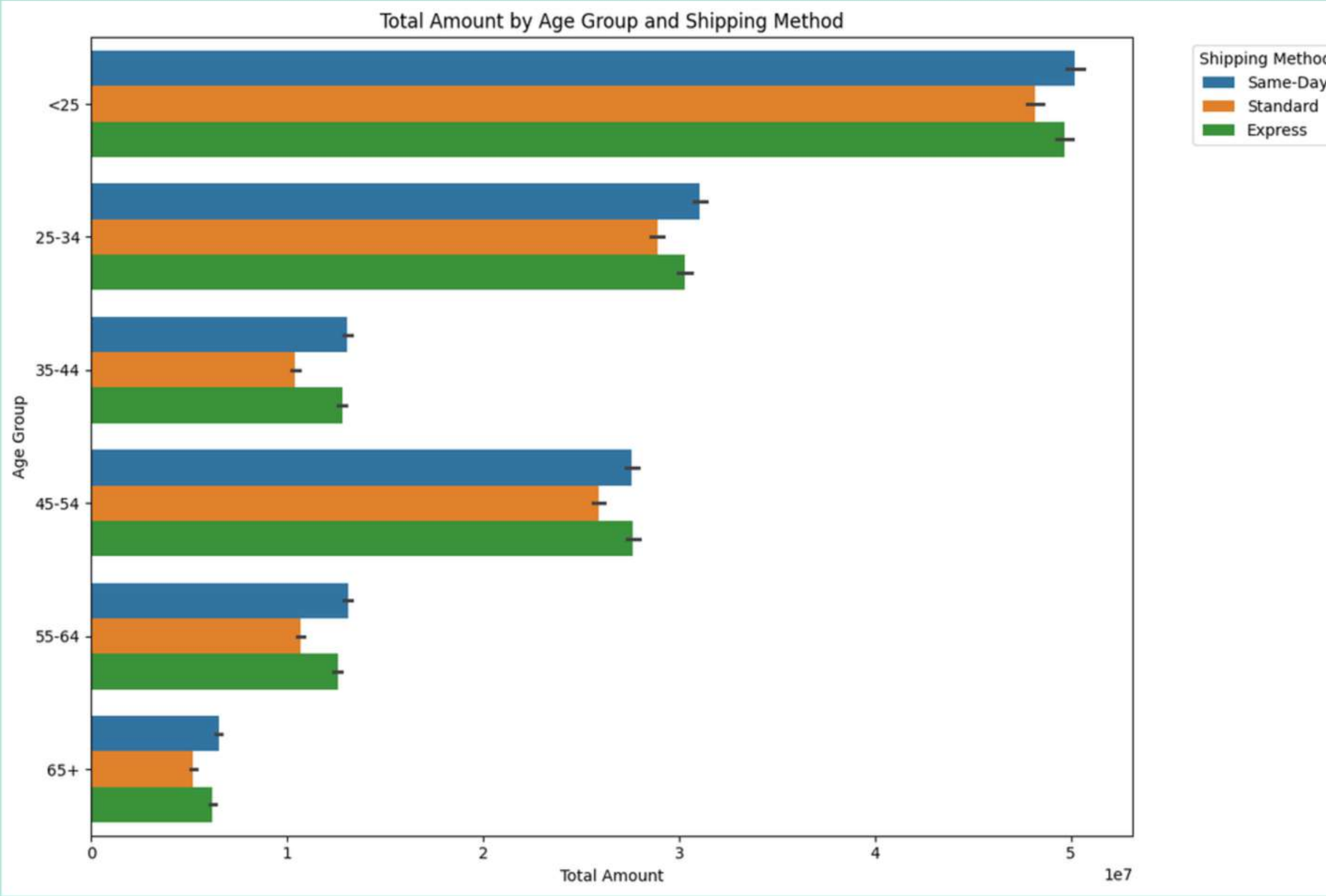
ANALYSIS ON GENDER



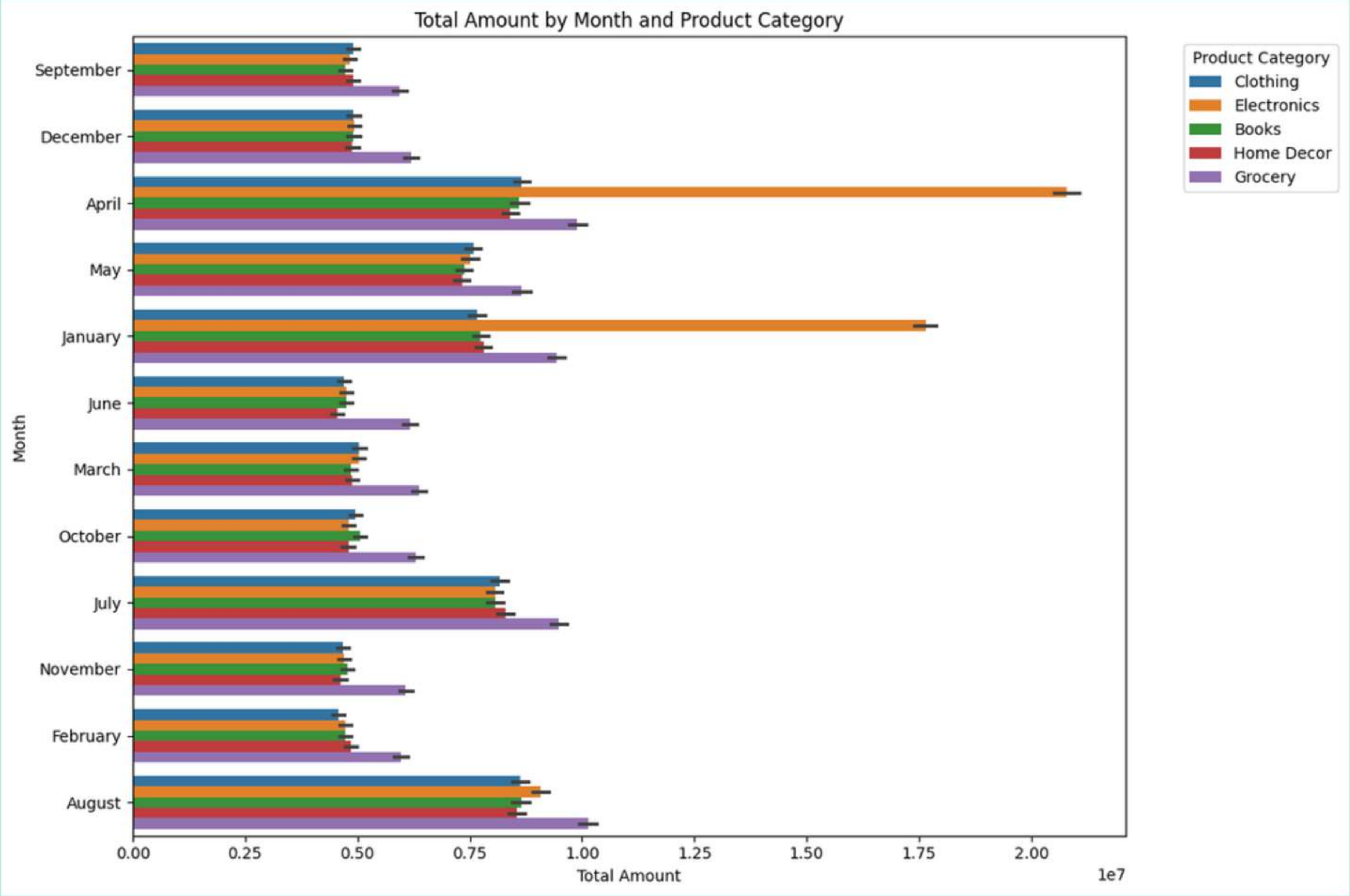


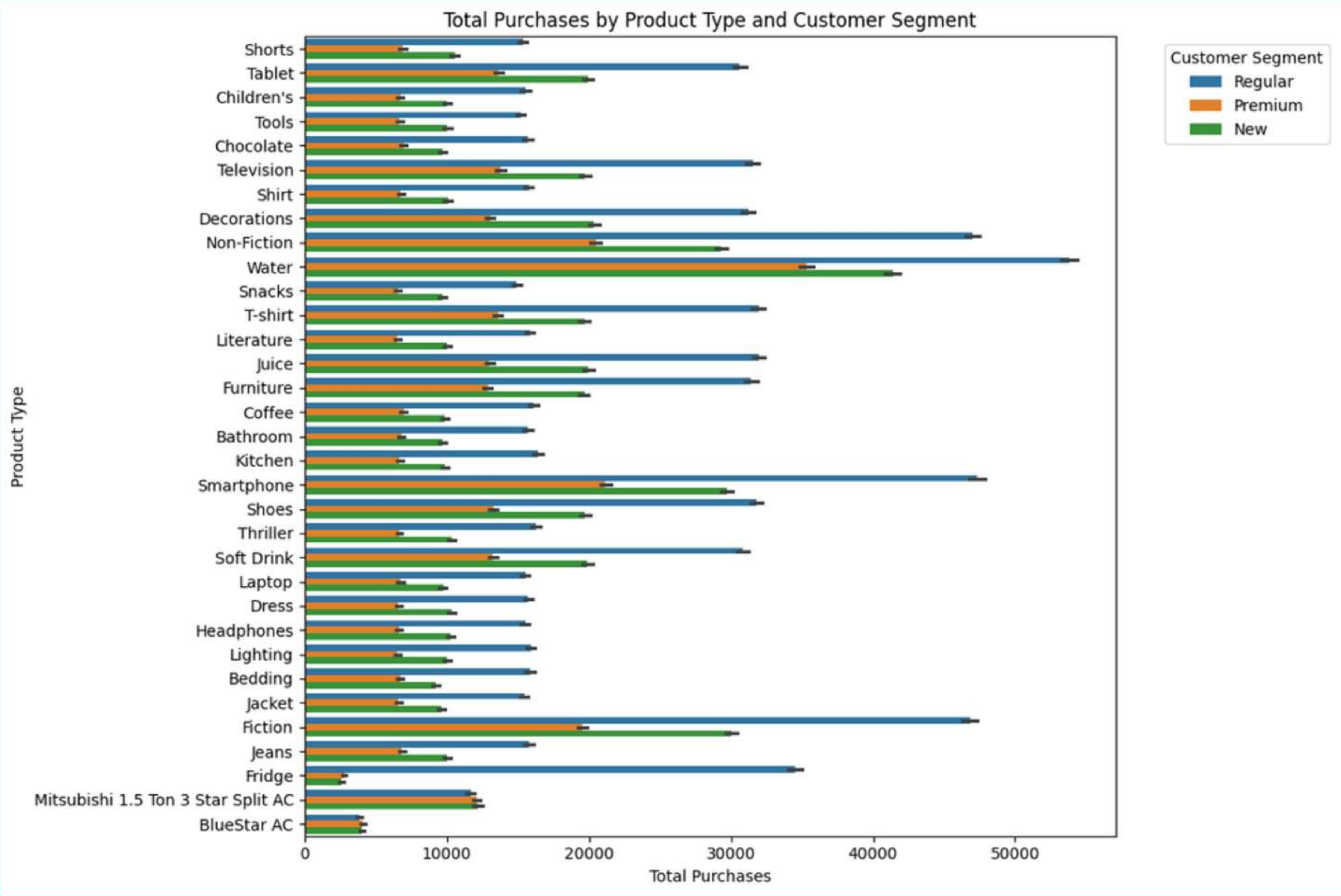
ANALYSIS ON SHIPPING METHOD





ANALYSIS ON TOTAL AMOUNT AND PURCHASE





Overview

ANALYSIS ON PRODUCT CATEGORY

- This slide presents comparisons by product category, focusing on ratings by payment method and total transaction amounts by customer segment. The ratings chart shows similar average ratings across all categories and payment methods (Debit Card, Credit Card, PayPal, Cash), suggesting payment type does not strongly affect customer satisfaction for any product category. The total amount chart indicates that Regular customers consistently contribute the highest total amounts across all product categories, with Premium and New segments trailing, reflecting greater purchasing activity among long-term customers.

ANALYSIS ON GENDER

- Here, the feedback and purchase activity are analyzed by gender across both product categories and brands. In every product category, males provide more feedback than females, especially in Electronics and Grocery categories, indicating higher male engagement. The brand purchase chart illustrates that males are responsible for significantly more purchases than females for almost all brands, particularly Pepsi and Samsung, highlighting distinct gender-based preferences in buying behavior.

ANALYSIS ON SHIPPING METHOD

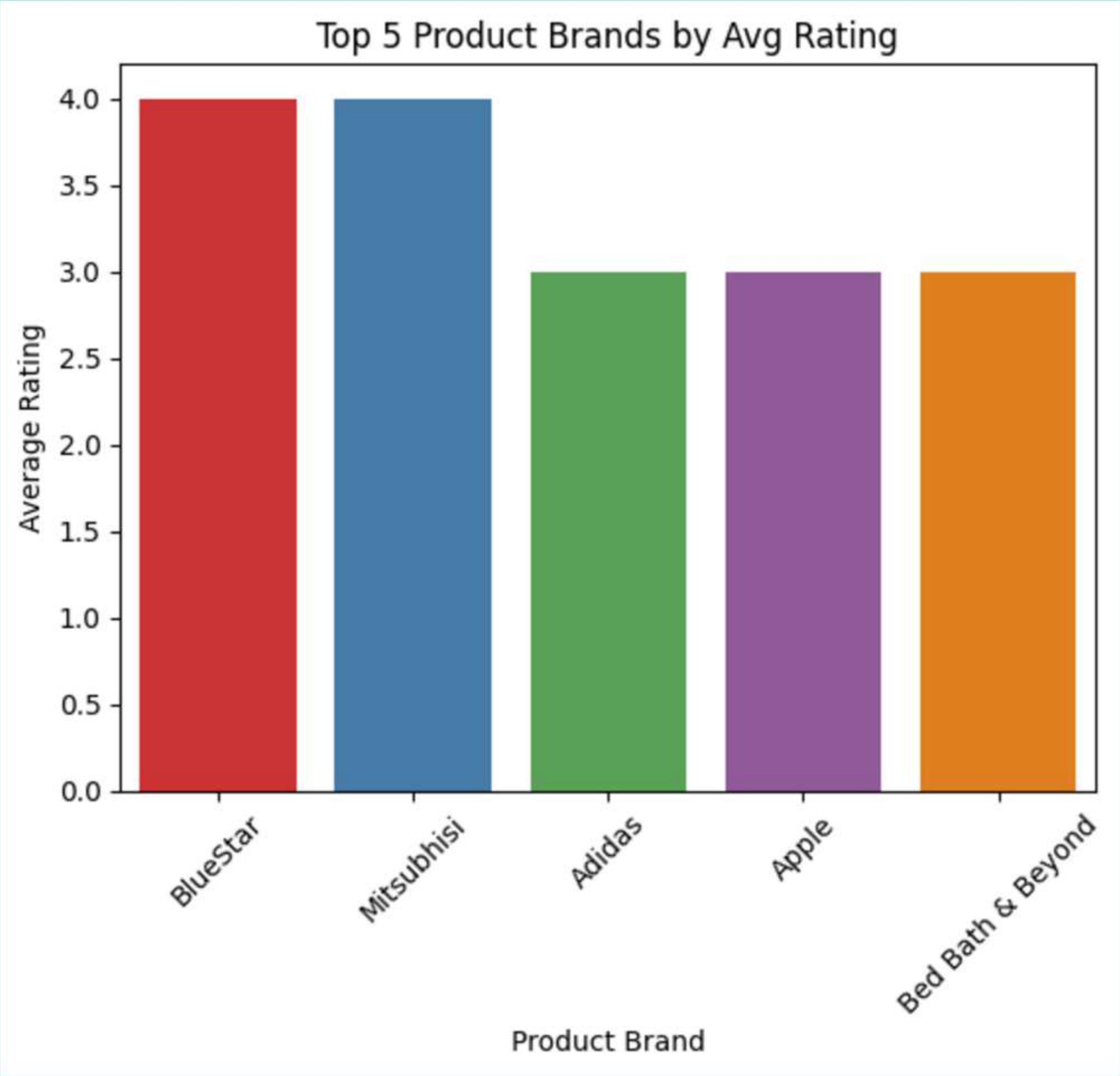
- This slide examines how payment method and age group affect the total transaction amount, specifically by shipping method. Same-Day shipping consistently results in the highest transaction amounts compared to Standard and Express for all payment methods, with Debit and Credit Card users leading in expenditure. For age groups, the under-25 segment records the highest total amounts, especially via Same-Day shipping, while older age brackets exhibit lower transaction amounts, demonstrating both the importance of younger customers and their preference for faster delivery.

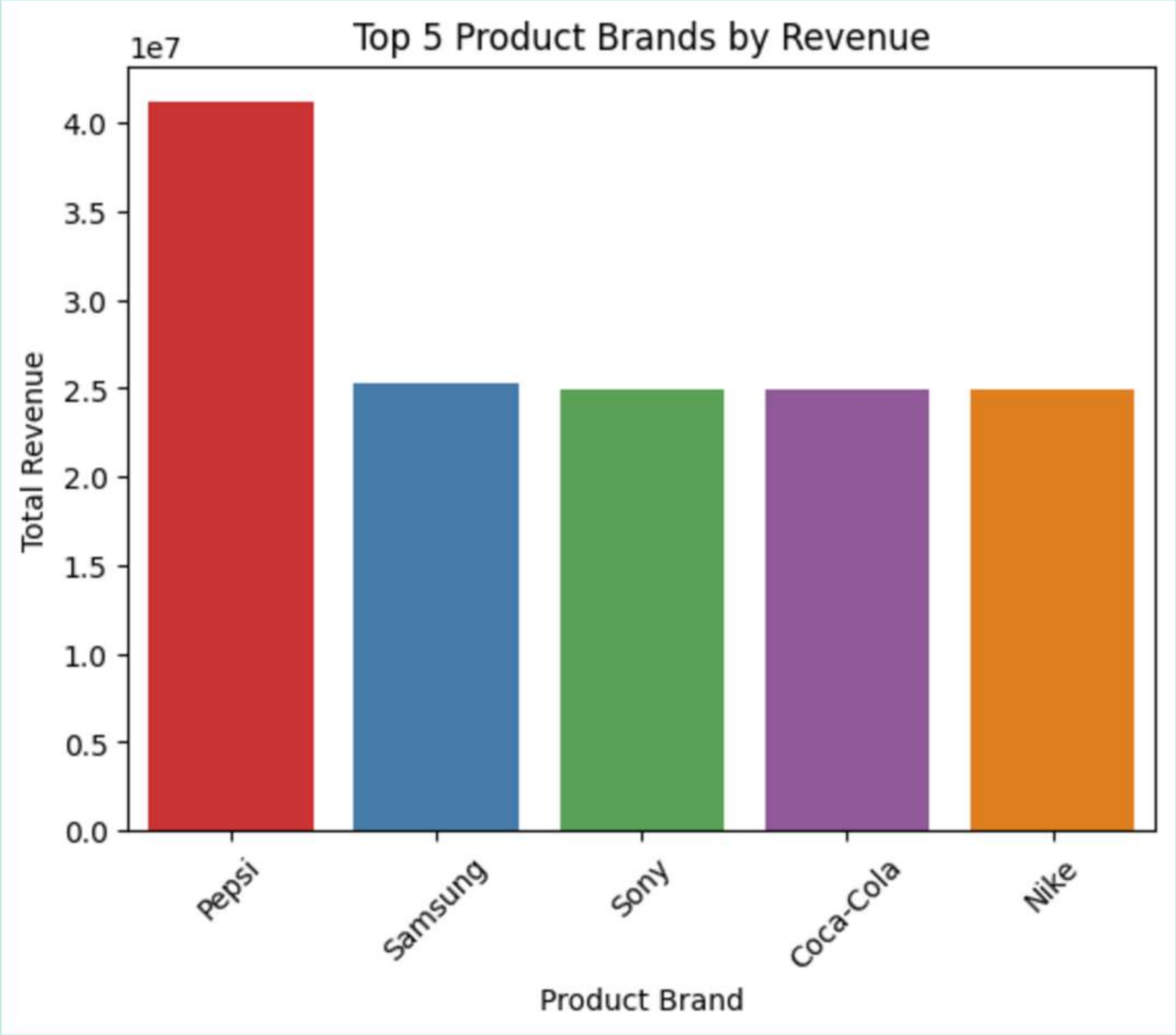
ANALYSIS ON TOTAL AMOUNT AND PURCHASE

- This slide combines monthly transactional analysis by product category and purchasing behaviors across product types and customer segments. The monthly comparison chart highlights significant peaks in total amounts for categories like Electronics and Home Decor during select months, showing seasonality effects in purchasing. The purchase count chart reveals that Regular customers dominate transactions for nearly every product type, with especially high volumes for Water, Snacks, and Smartphones, confirming their central role in the business's overall sales.

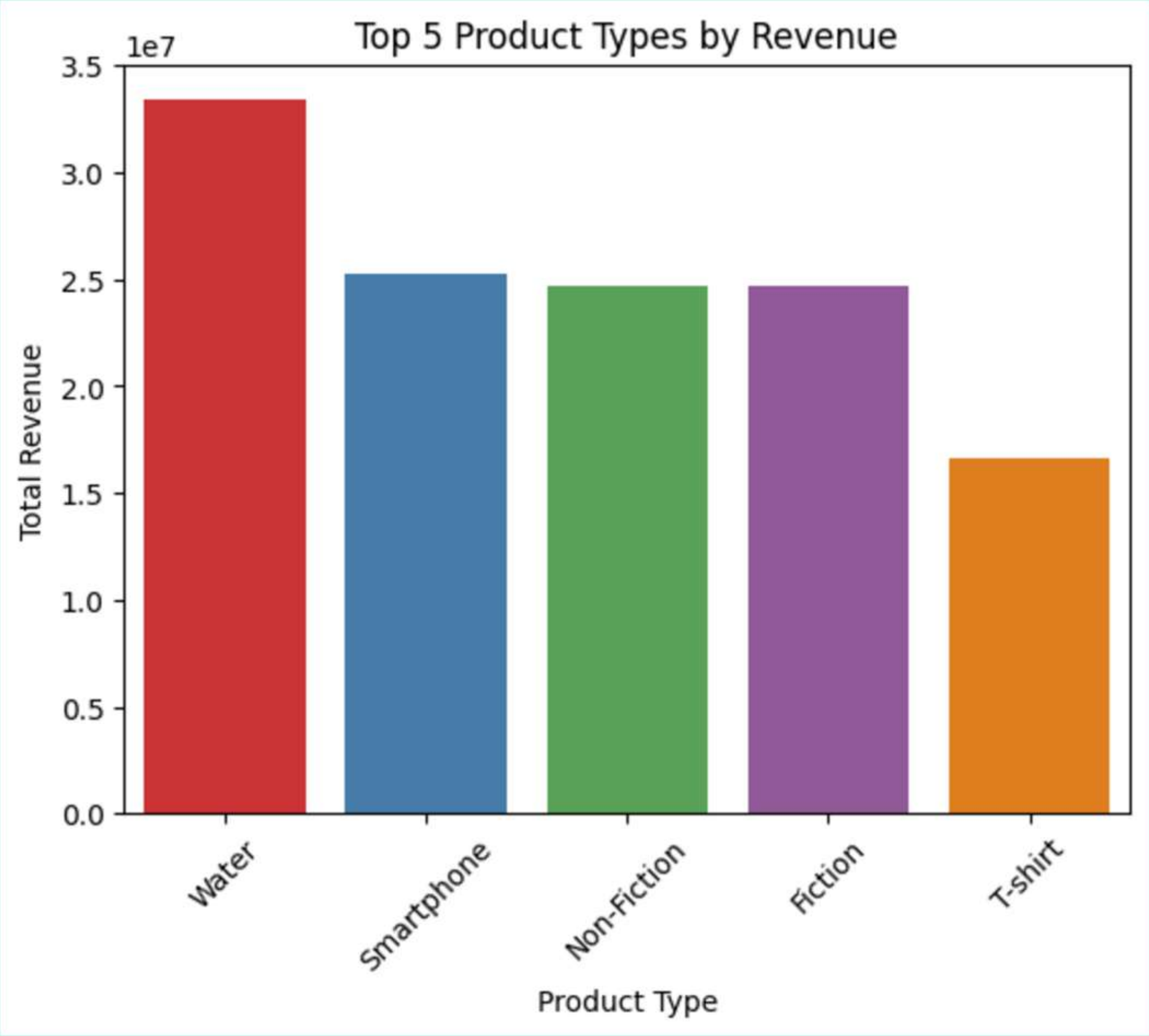
Top N and Bottom N Analysis

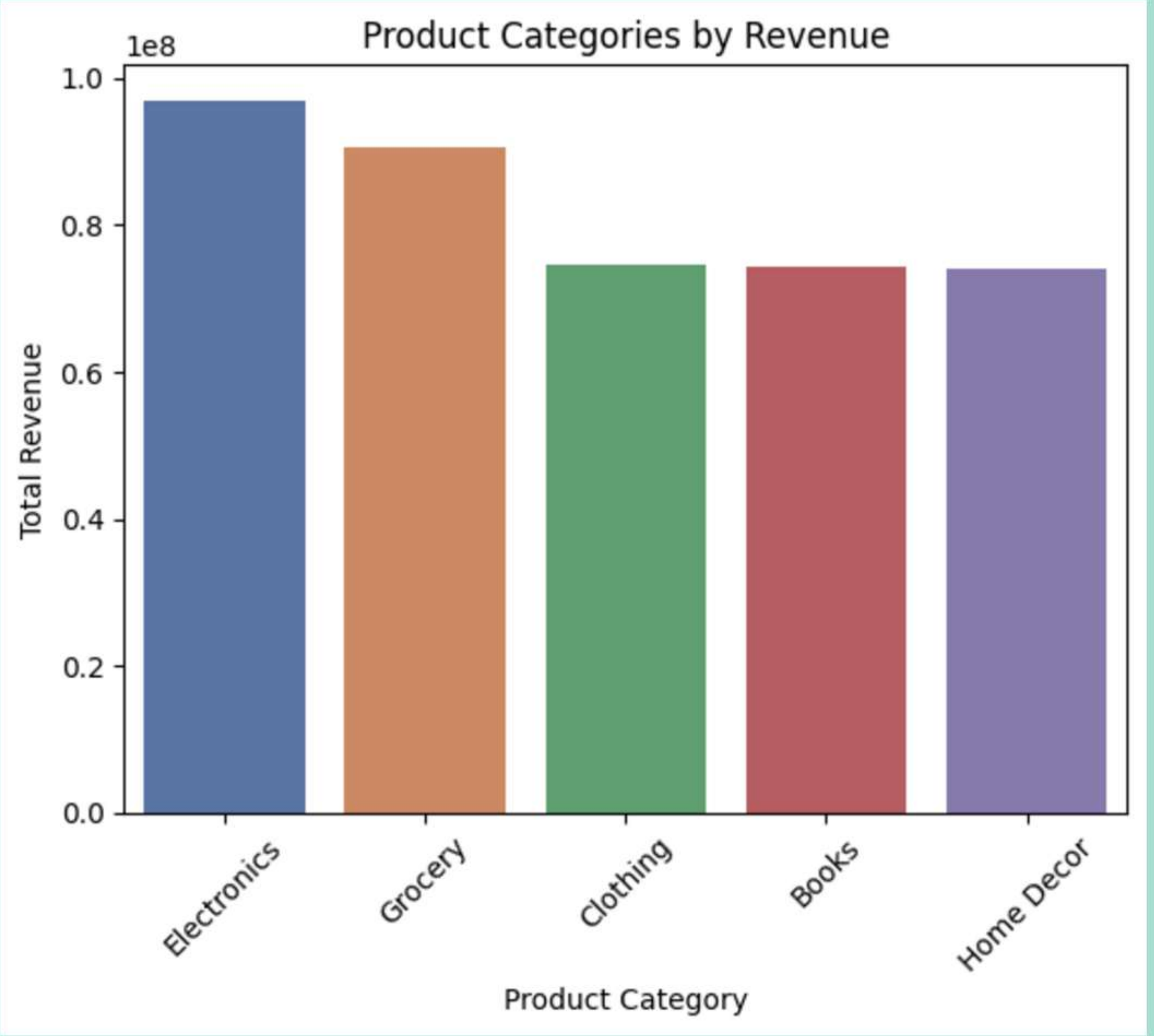
TOP FIVE PRODUCT BRANDS



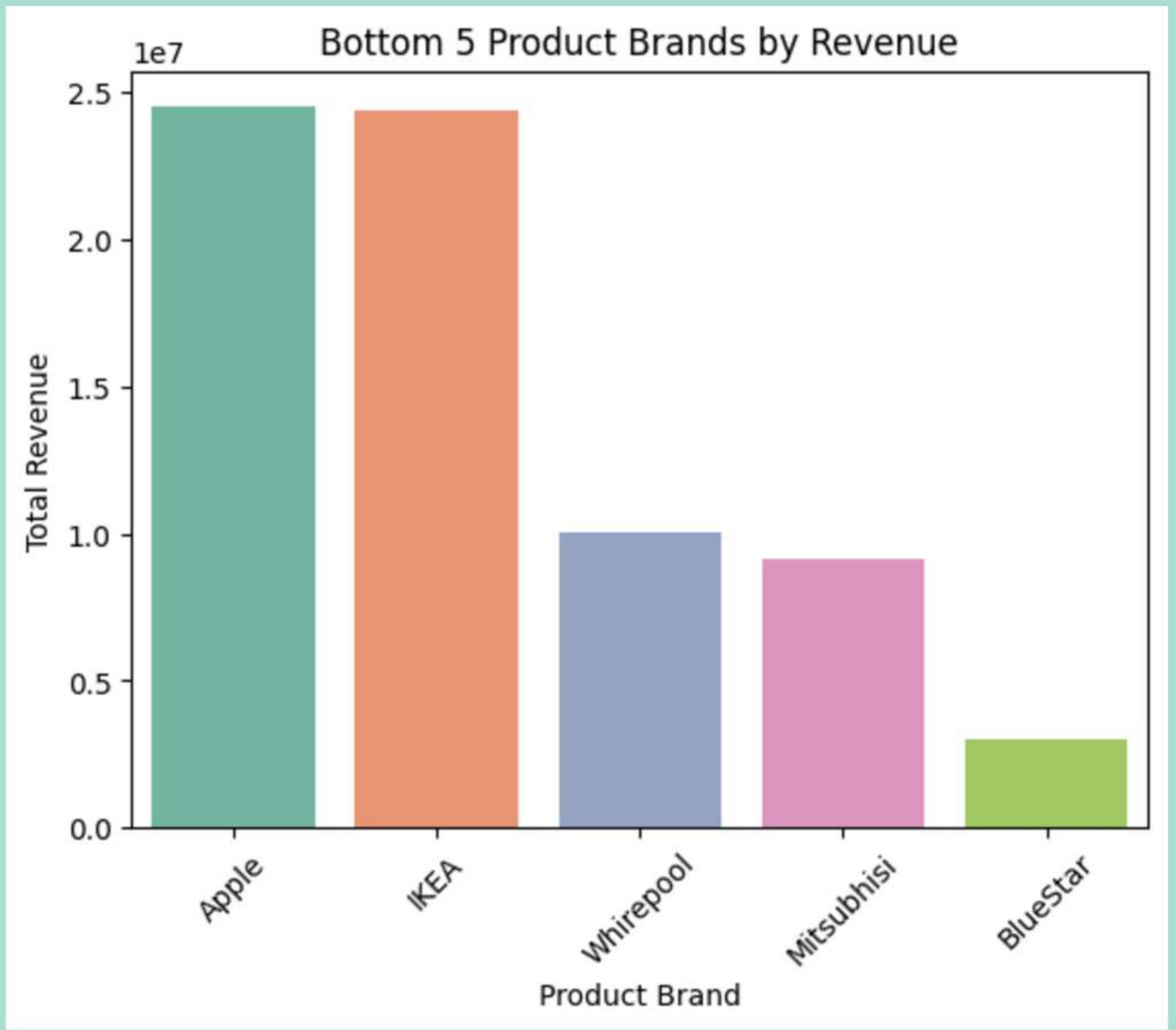


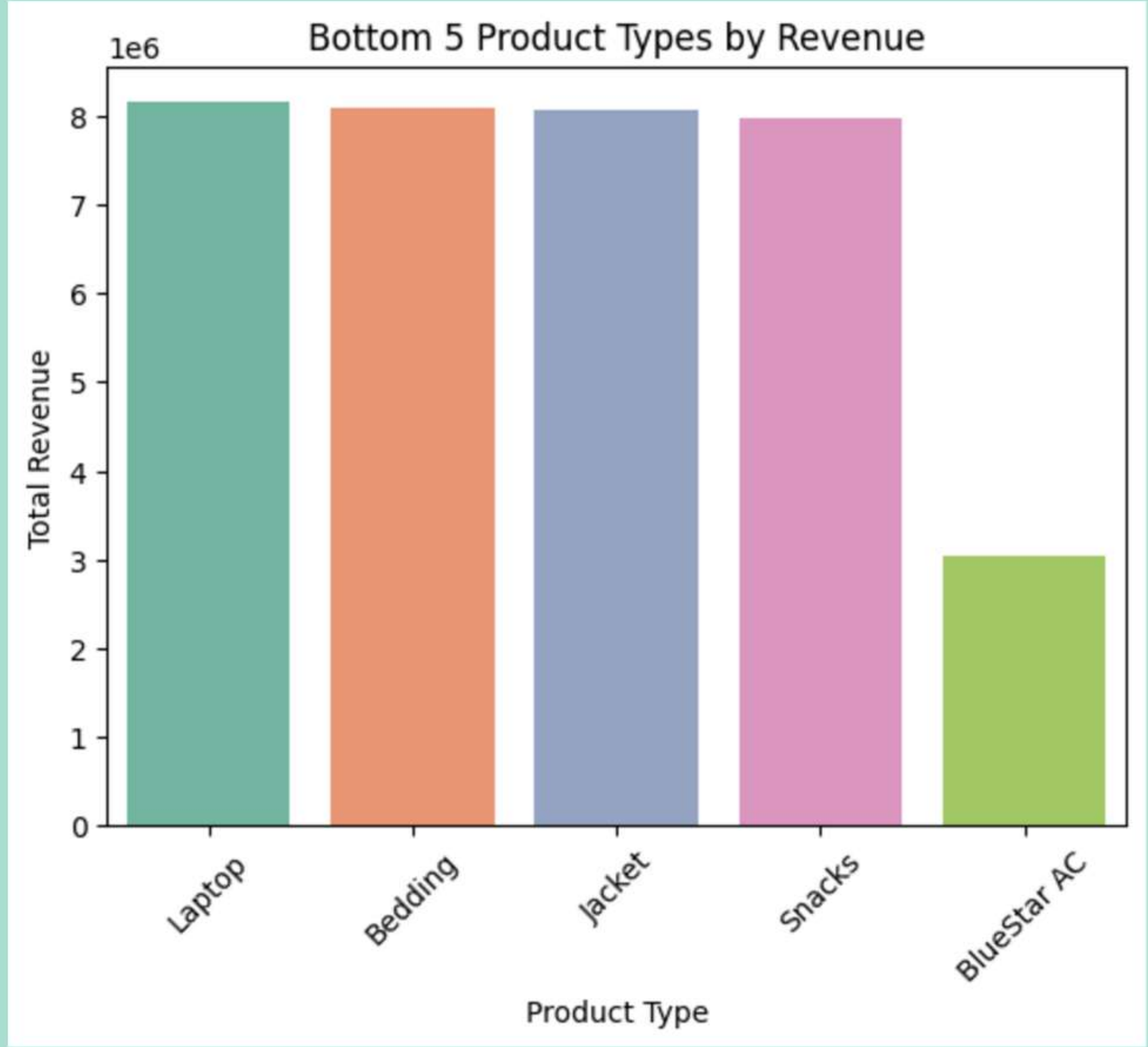
TOP FIVE PRODUCT TYPES AND CATEGORIES

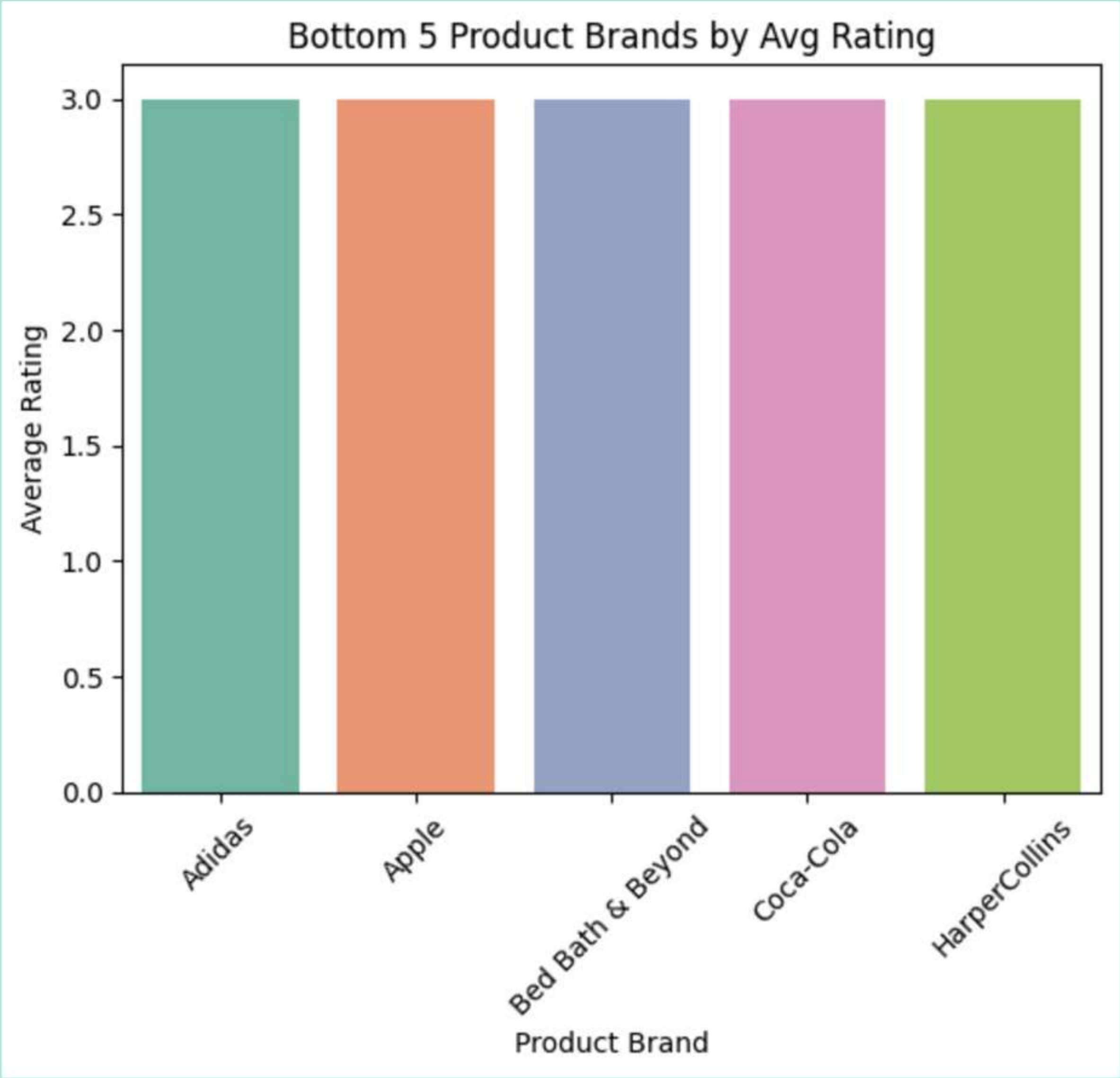




BOTTOM FIVE PRODUCT BRANDS AND TYPES







Overview

TOP FIVE PRODUCT BRANDS

- This slide showcases top product brands using average rating and total revenue metrics. Bluestar and Mitsubishi lead with the highest average ratings, followed by Adidas, Apple, and Bed Bath & Beyond, suggesting strong customer satisfaction for these brands. In terms of revenue, Pepsi is the clear leader, generating the highest earnings, while Samsung, Sony, Coca-Cola, and Nike also perform strongly in driving sales revenue.

TOP FIVE PRODUCT TYPES AND CATEGORIES

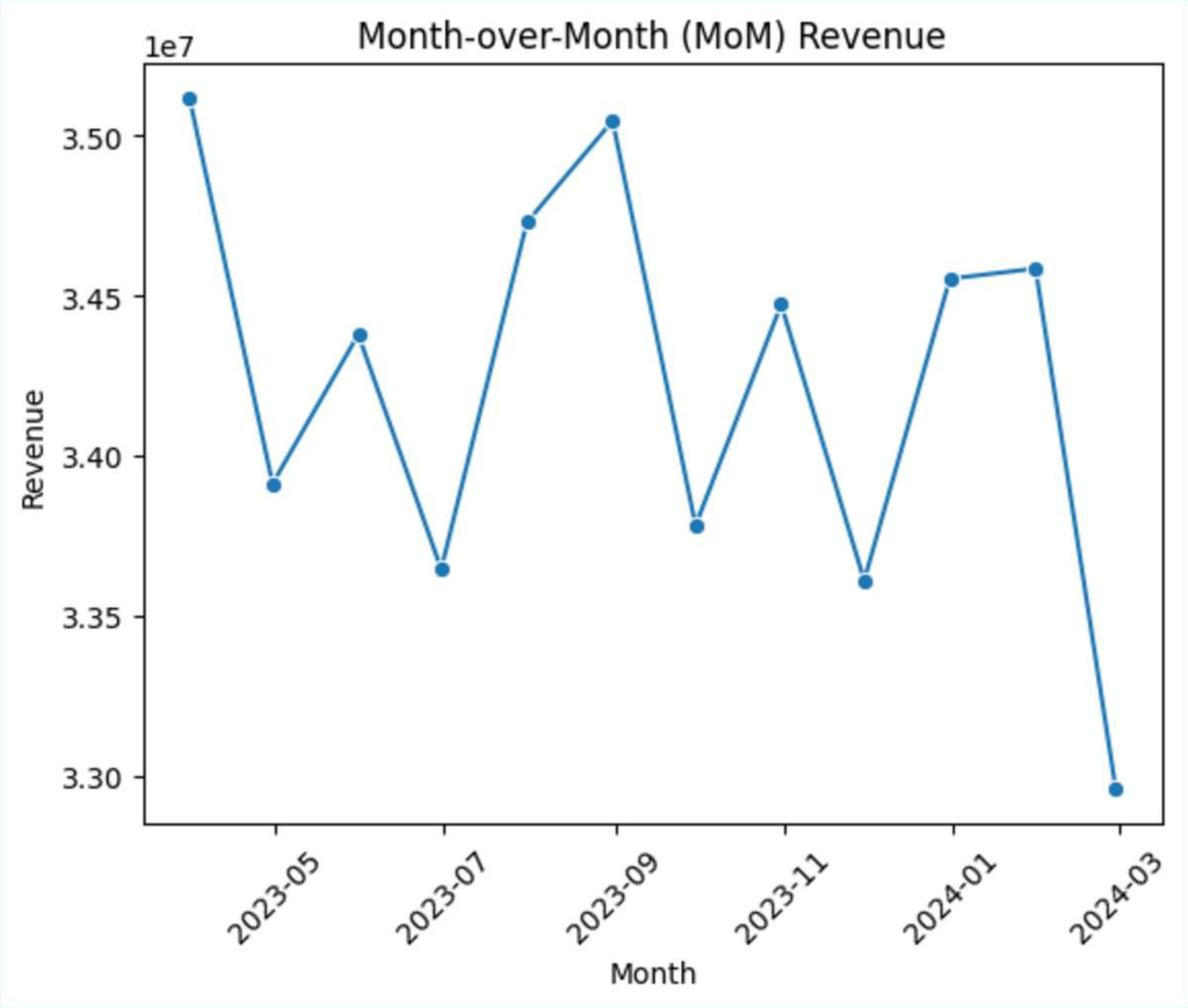
- This slide ranks top product types and categories by revenue. Water generates the most revenue among product types, trailed by Smartphone, Non-Fiction, Fiction, and T-shirt, highlighting diverse consumer interests. At the category level, Electronics dominates in revenue, followed by Grocery, Clothing, Books, and Home Decor, indicating electronics and everyday essentials are key drivers of overall business prosperity.

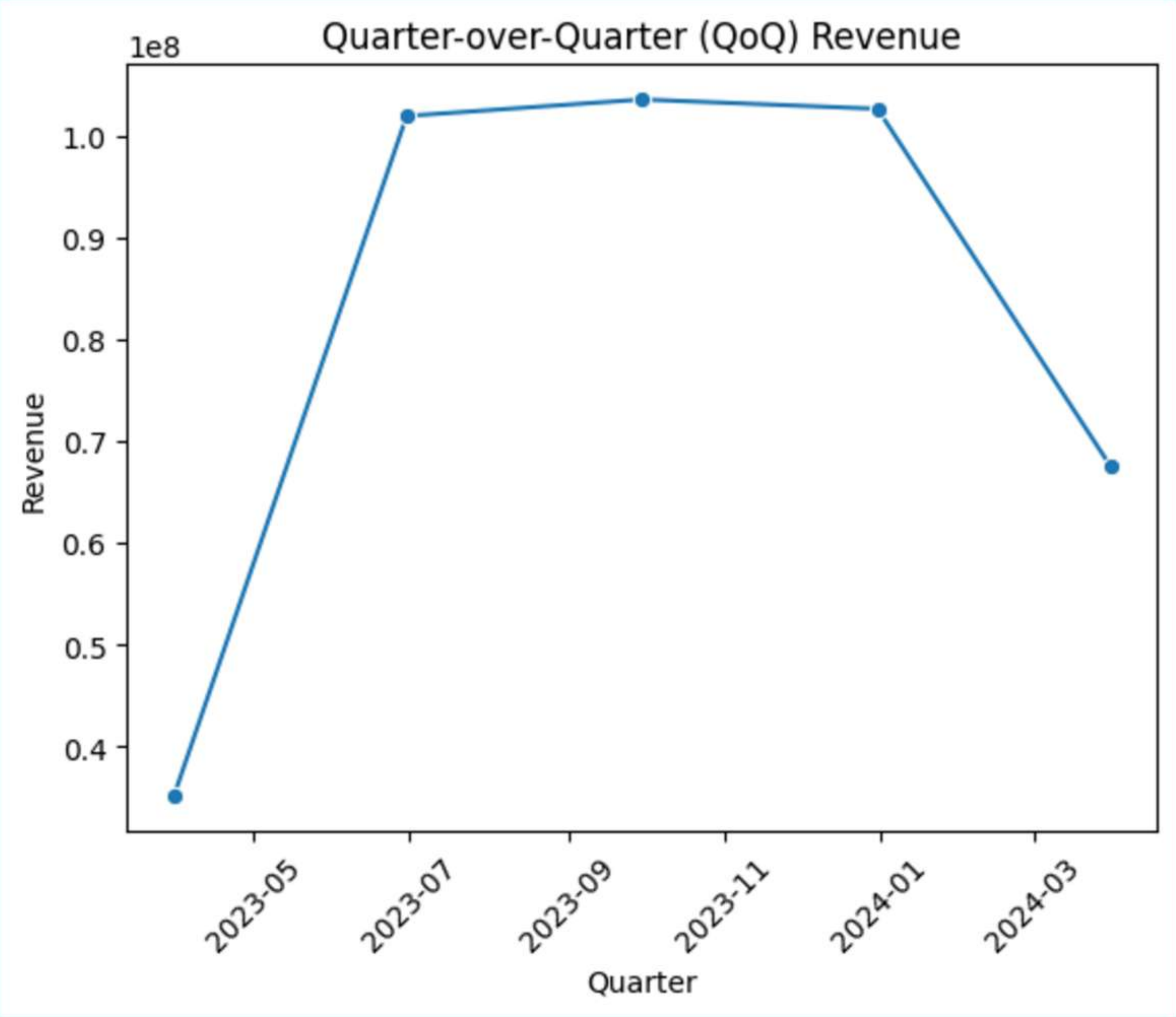
BOTTOM FIVE PRODUCT BRANDS AND TYPES

- This slide provides details on the least successful brands and product types by revenue and rating. Among brands, Bluestar, Mitsubishi, Whirlpool, IKEA, and Apple are at the bottom for total revenue, with Bluestar lowest; similarly, Laptop, Bedding, Snacks, and Bluestar AC are among the lowest-earning product types. Brands like Adidas, Apple, Bed Bath & Beyond, Coca-Cola, and HarperCollins reflect the lowest average ratings, signaling potential areas for improvement in customer experience or product quality for these brands.

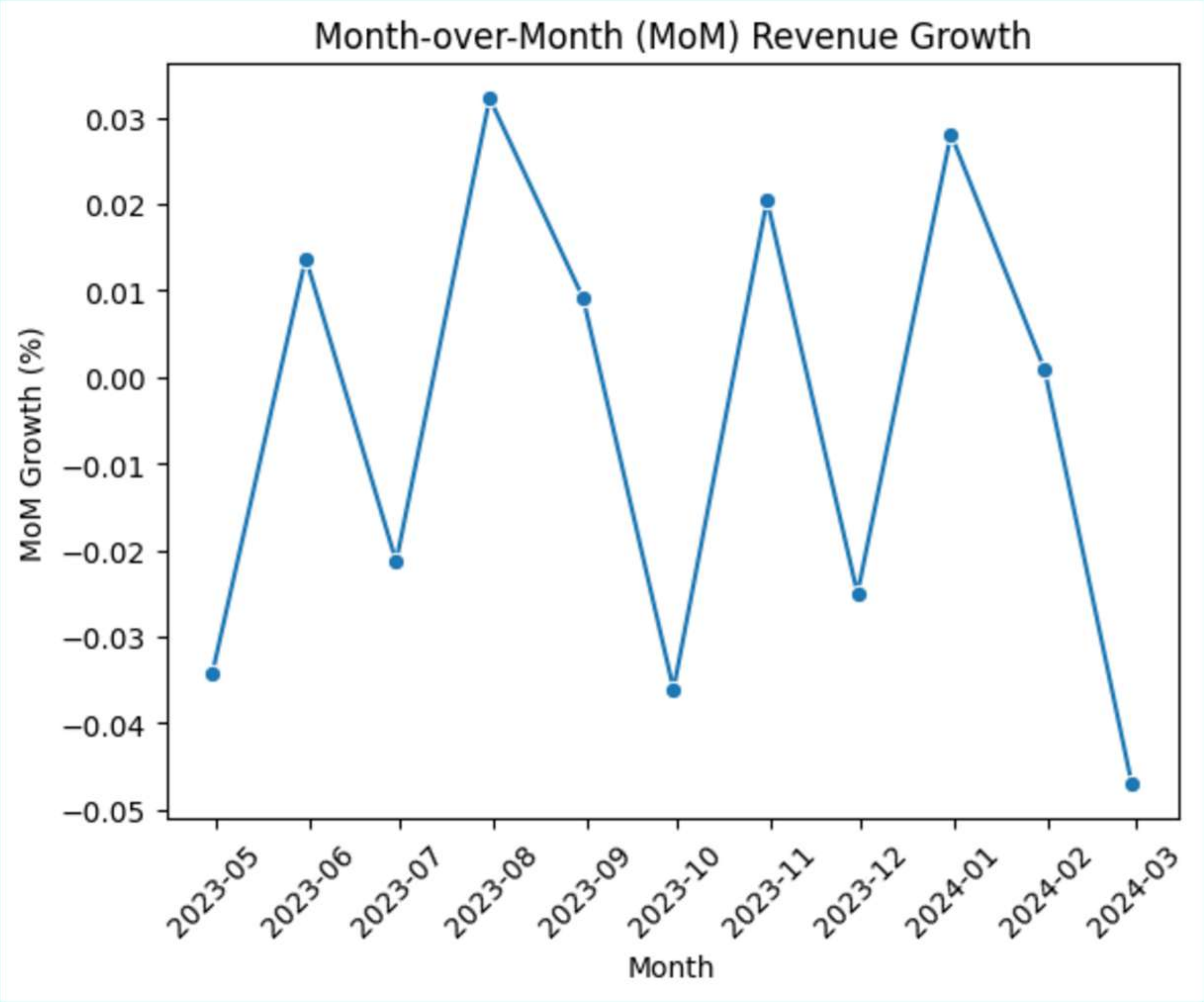
Timeseries Analysis

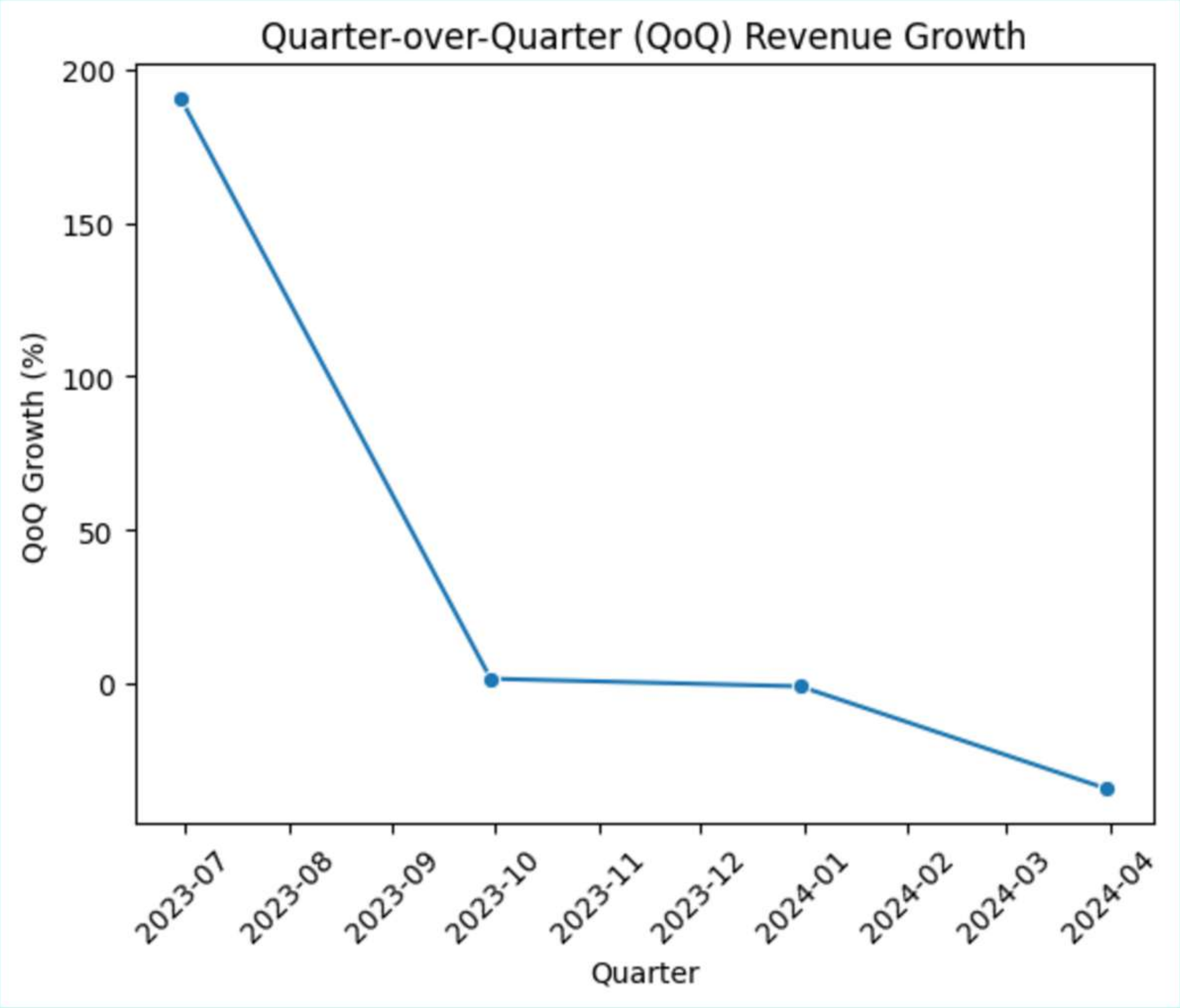
REVENUE ANALYSIS



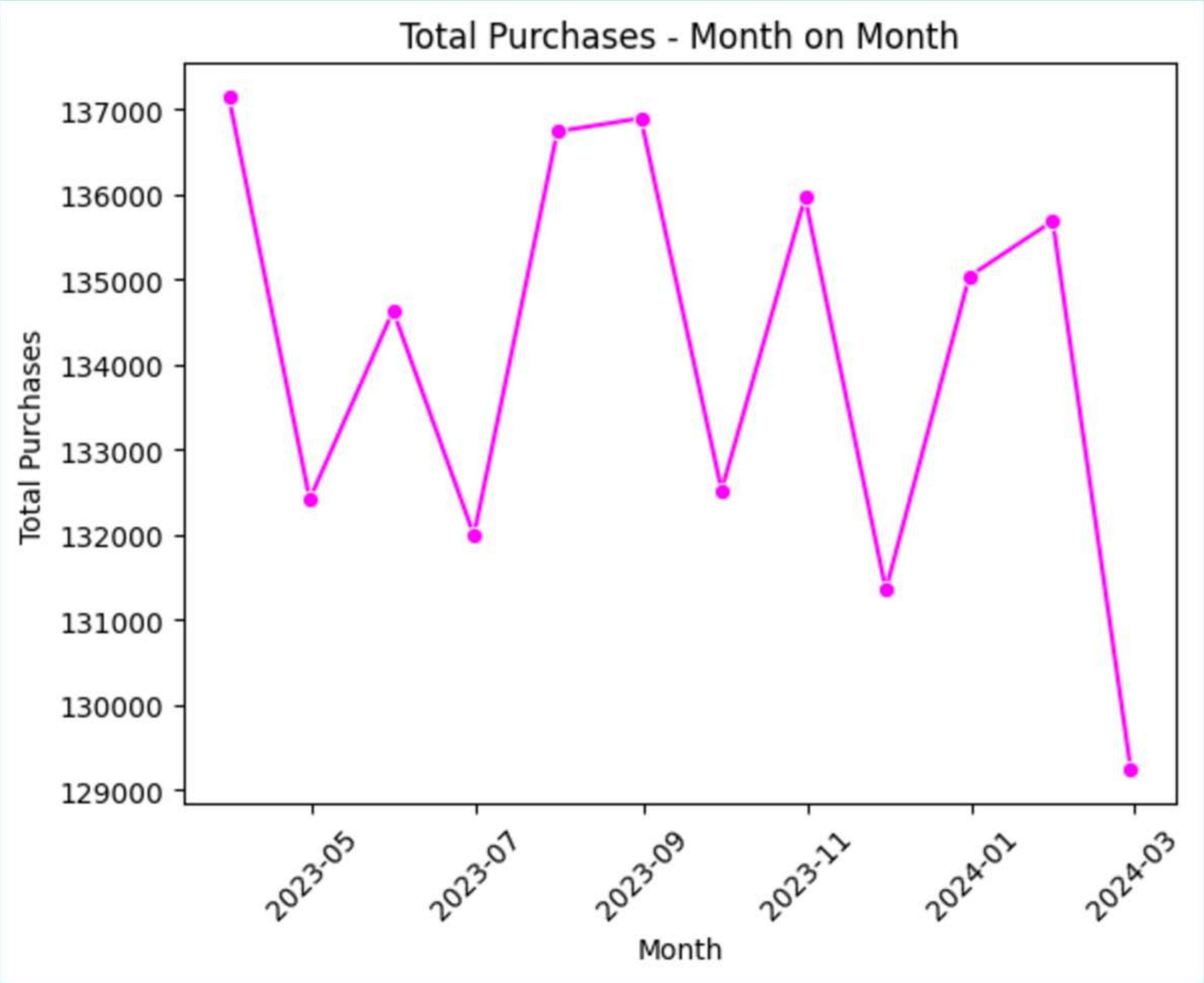


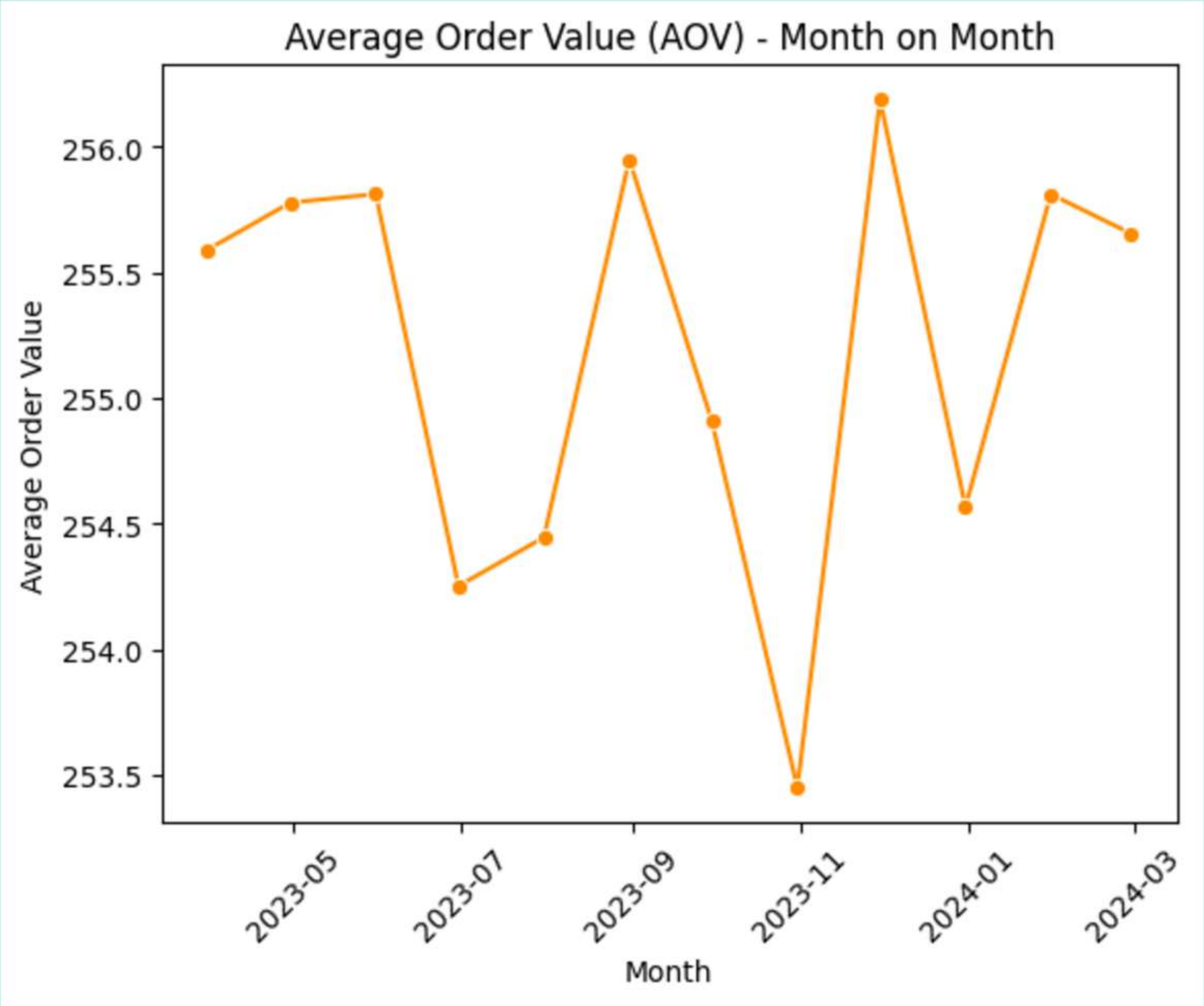
GROWTH ANALYSIS



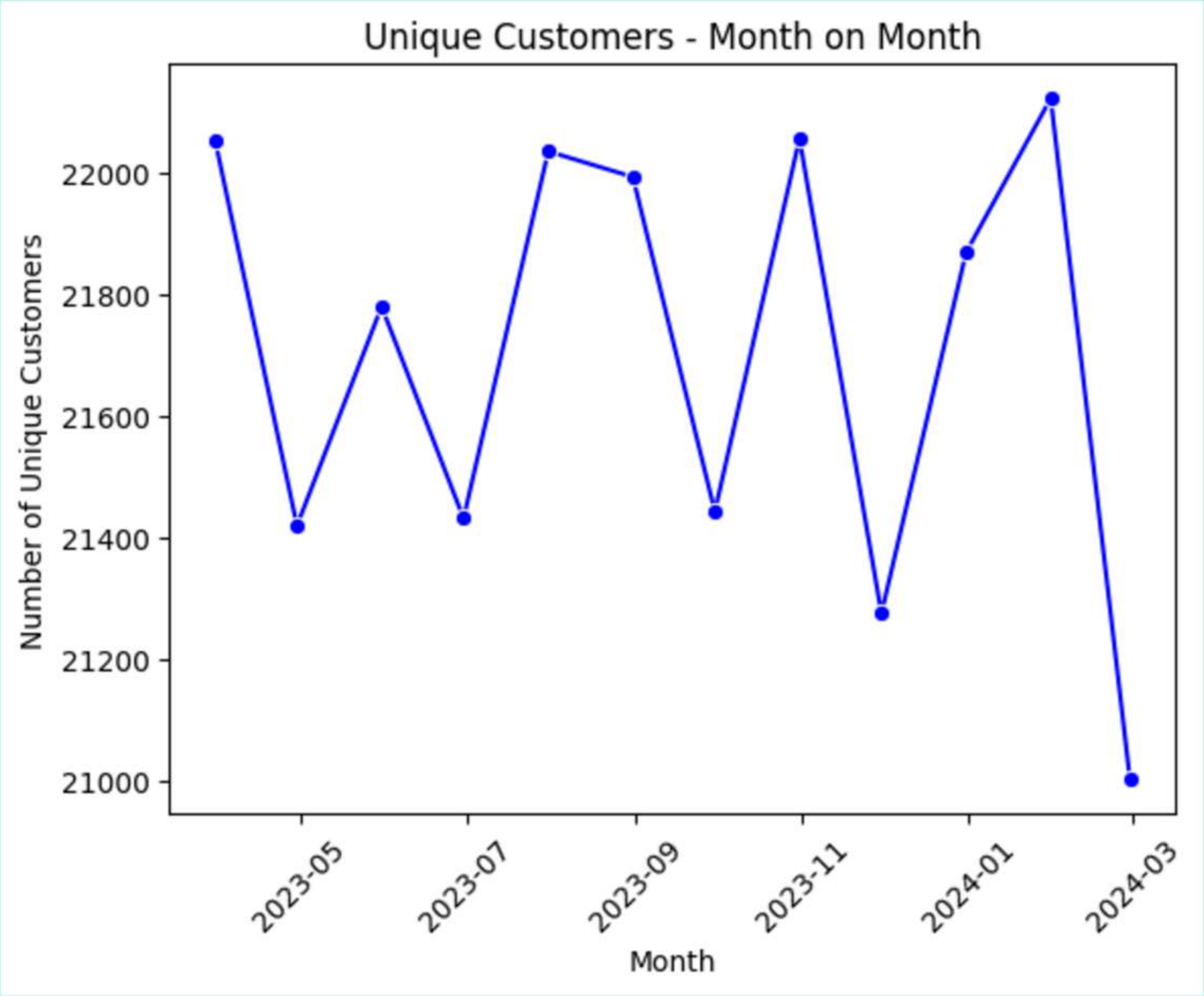


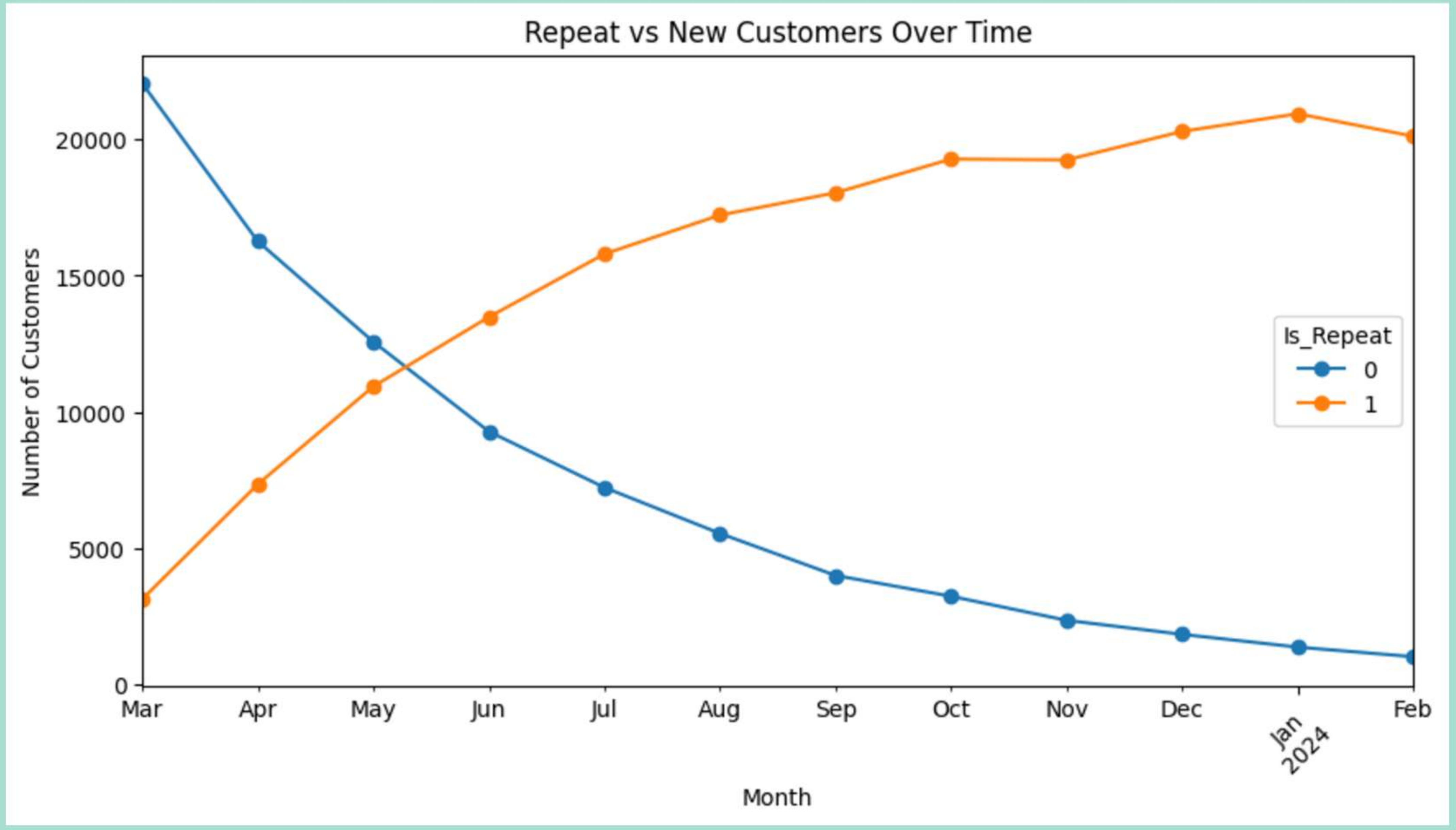
TOTAL PURCHASE AND AOV TREND



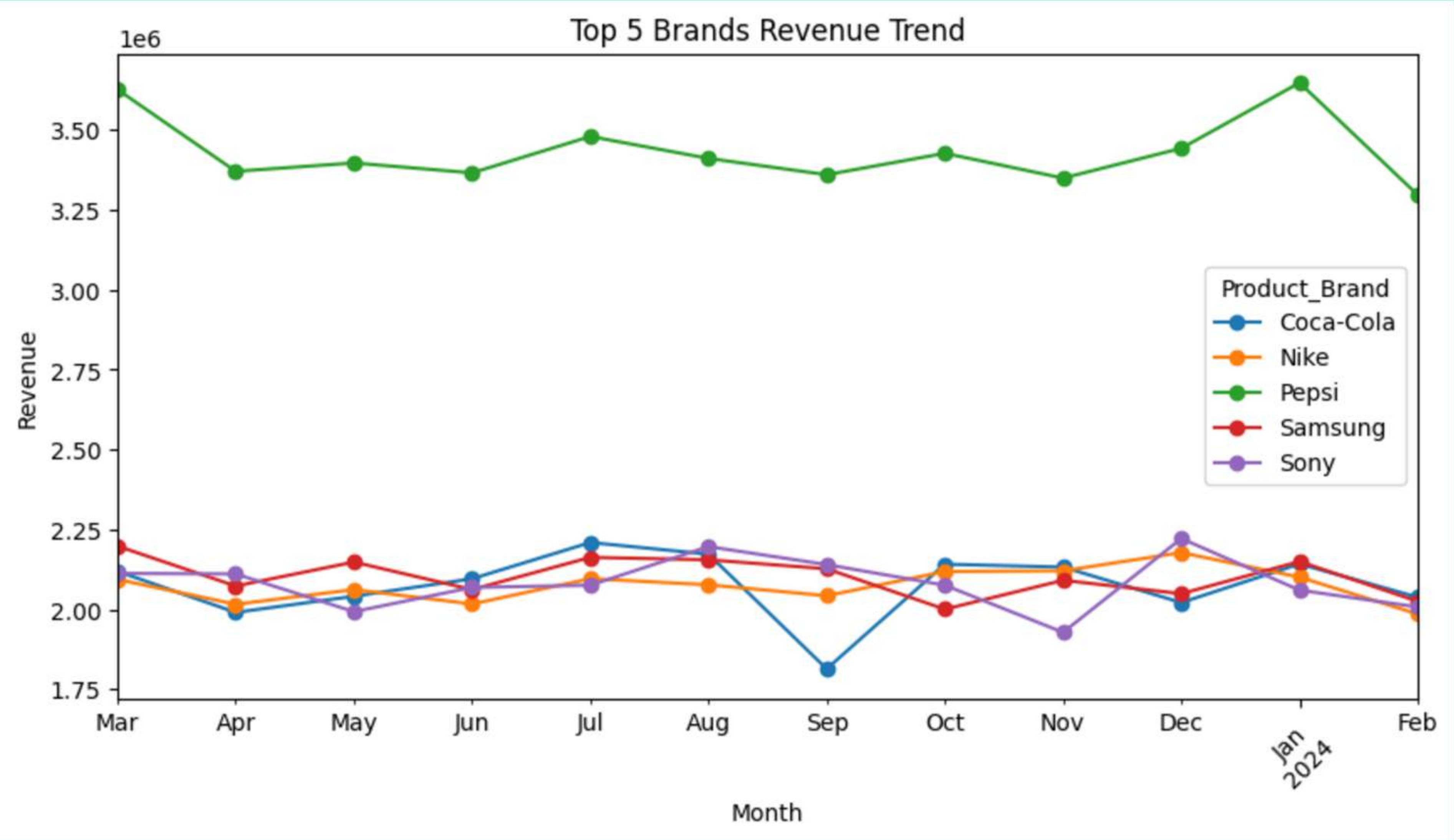


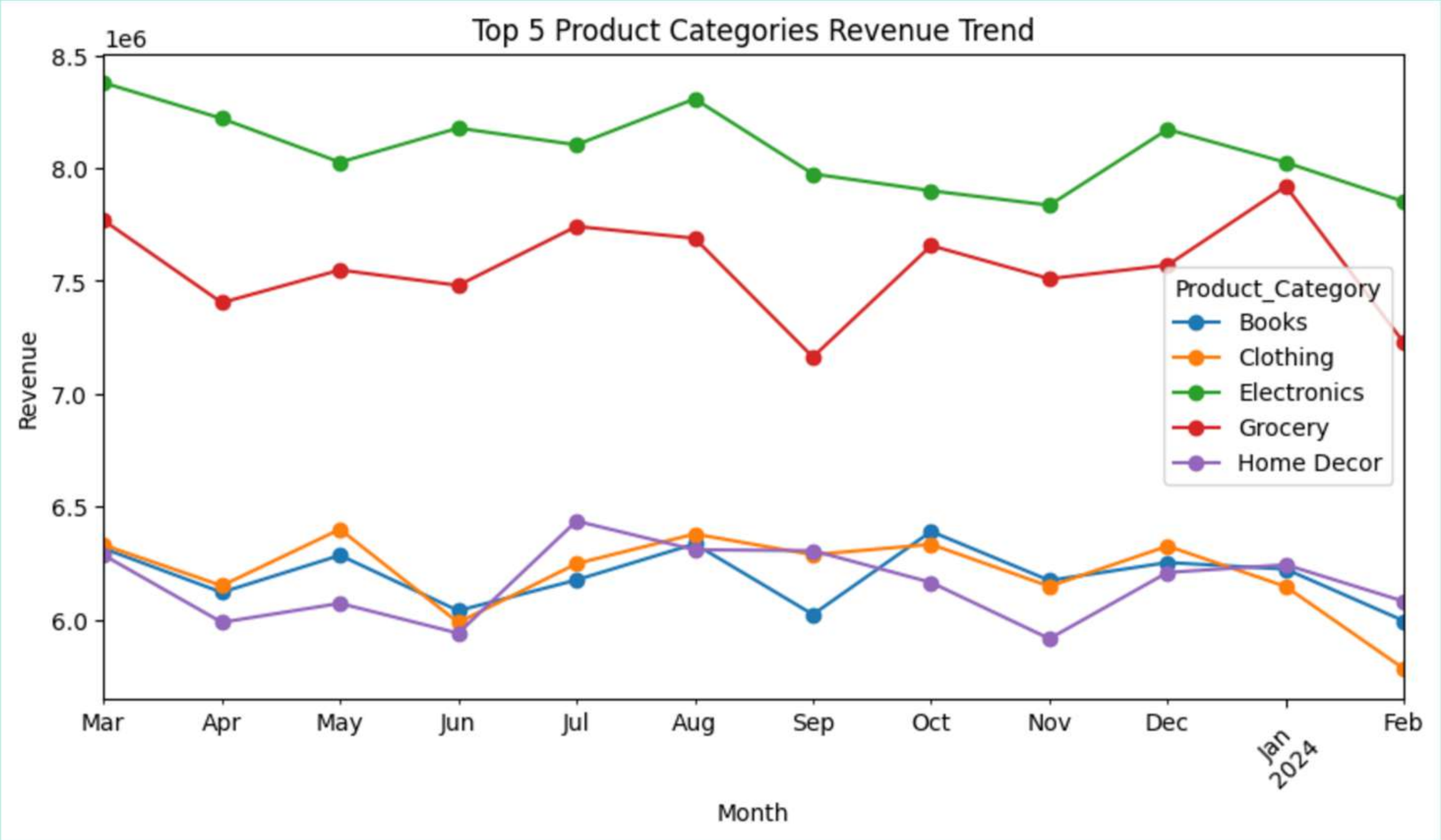
TREND OF UNIQUE AND NEW CUSTOMER



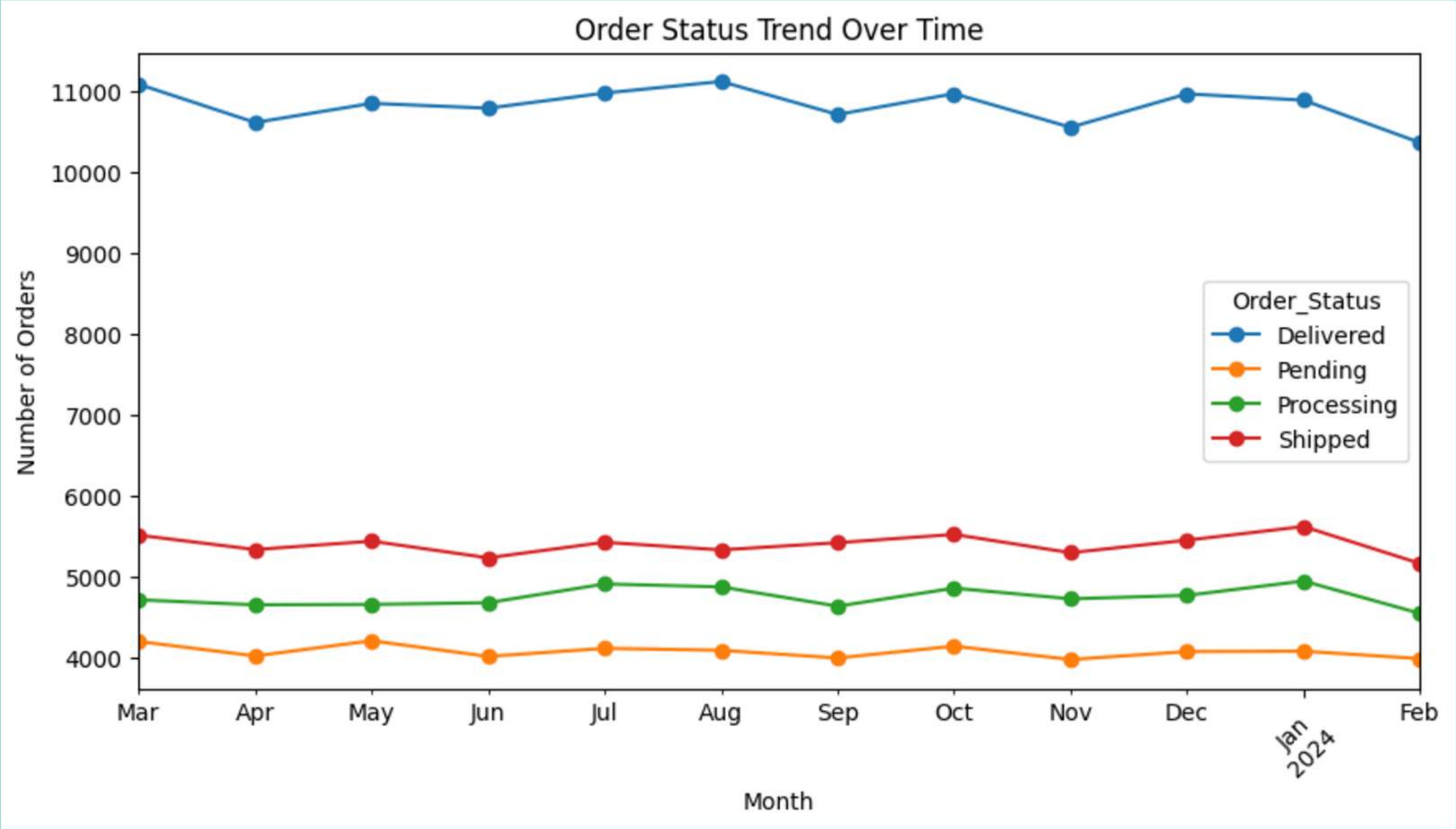


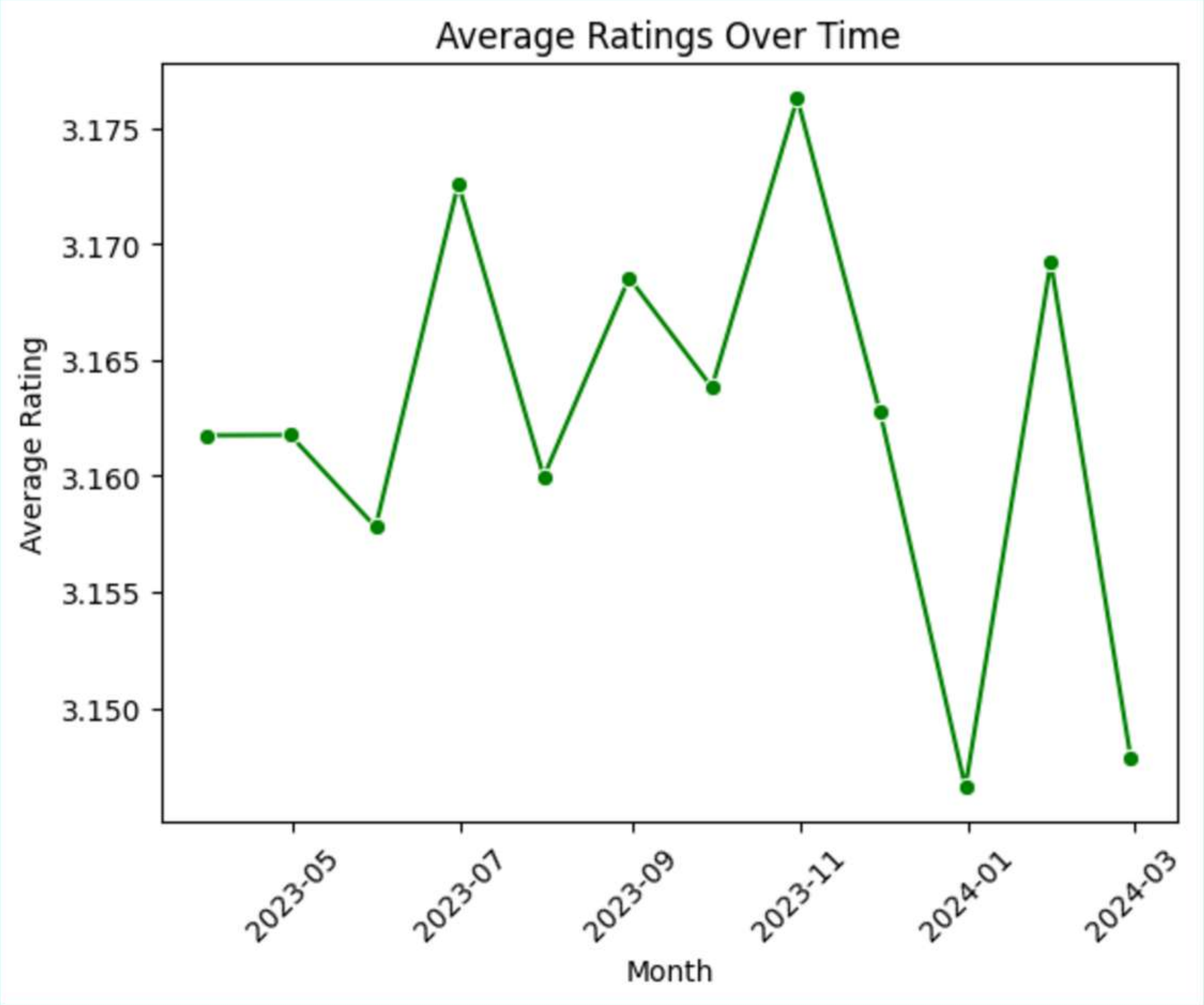
MOM TREND OF TOP FIVE BRANDS AND CATEGORIES





MOM TREND OF ORDER STATUS AND AVG RATINGS





Overview

REVENUE ANALYSIS

- This slide explores the revenue trends over time, using Month-over-Month (MoM) and Quarter-over-Quarter (QoQ) revenue line charts. The MoM chart reveals fluctuating monthly revenues with highs and lows, suggesting seasonality or unpredictable sales. The QoQ chart indicates growth in mid-year quarters followed by a decline in the latest quarter, indicating cyclical performance with potential challenges.

GROWTH ANALYSIS

- This slide highlights business growth dynamics via MoM and QoQ revenue growth percentages. The MoM growth chart shows volatility with alternating positive and negative growth indicating unstable short-term trends. The QoQ growth analysis reveals an early surge in growth followed by stagnation and decline, which may reflect market saturation or external factors affecting sustainability.

TOTAL PURCHASE AND AOV TREND

- This slide tracks month-on-month trends for total purchases and average order value (AOV). Both charts show considerable month-to-month variability and a recent drop, indicating fluctuations in buying volume and customer spend behavior over time that may relate to market or seasonal factors.

TREND OF UNIQUE AND NEW CUSTOMER

- This slide examines customer trends, showing monthly unique customer counts fluctuating with a recent downward trend. Additionally, the chart comparing repeat and new customers shows a steady rise in new customers overtaking repeat buyers, signaling strong acquisition but potential challenges in customer retention.

MOM TREND OF TOP FIVE BRANDS AND CATEGORIES

- This slide shows month-over-month revenue trends for both top brands and product categories. The brand revenue trend chart highlights Pepsi as the clear leader, consistently earning more monthly revenue than Coca-Cola, Nike, Samsung, and Sony, all of which show relatively stable but lower revenues throughout the period. The product category chart reveals Electronics and Grocery as dominant, maintaining high monthly revenues well above Clothing, Books, and Home Decor, though all categories experience minor fluctuations, indicating stability and competitive performance among the market leaders.

MOM TREND OF ORDER STATUS AND AVG RATINGS

- This slide summarizes order status and average ratings trends over time. The order status chart demonstrates consistently high volumes of Delivered orders each month, far surpassing Shipped, Processing, and Pending statuses, which remain comparatively lower and steady, signifying reliability in order completion. The average ratings chart shows slight month-to-month variability but overall stability, with ratings remaining close to 3.16 throughout the period, reflecting sustained customer satisfaction

Final Recommendation

Key Insights

- Customer Demographics: Predominantly younger customers aged 18-35, with a higher male engagement across most product categories and brands.
- Purchase Behavior: Regular customers dominate in total purchases and transaction amounts, although new customer acquisition is steadily increasing.
- Product Performance: Electronics, Grocery, and Water product types lead in revenue and purchase volume; Bluestar and Mitsubishi show high satisfaction but low revenue, while Pepsi dominates revenue with moderate ratings.
- Revenue Trends: Monthly and quarterly revenues show volatility with periods of strong growth followed by recent declines; seasonal patterns are evident.
- Order Fulfillment: Majority of orders are delivered on time with consistently low pending and processing rates, reflecting operational efficiency.
- Customer Feedback: Most customers provide positive feedback, with over 65% ratings of “Excellent” or “Good,” showing overall satisfaction.
- Payment and Shipping Preferences: Balanced use of Credit/Debit cards and cash, with Same-Day and Express shipping preferred among younger and high-value customers.
- Customer Retention Challenge: New customers outnumber repeat customers over time, indicating potential issues with retention despite good acquisition.

Actionable Recommendations

- Enhance Customer Retention Strategies: Develop loyalty programs, personalized offers, and improved engagement for repeat customers using data-driven segmentation.
- Target Younger Demographics: Tailor marketing campaigns around the 18-35 age group, leveraging popular product categories such as electronics and beverages.
- Optimize Product Catalog: Expand offerings and stock in top-performing categories—electronics, grocery, and water products—while evaluating underperforming brands for quality or promotion improvements.
- Focus on High-Value Brands: Invest in brands with strong revenue and solid customer ratings, such as Pepsi and Samsung, and cultivate emerging ones like Bluestar with targeted marketing.
- Refine Shipping Options: Promote Same-Day and Express shipping among high-value and younger customer segments to enhance satisfaction and increase order value.
- Enhance Payment Method Flexibility: Maintain diverse payment options, focusing on credit/debit cards for premium customers while improving digital payment experiences.
- Seasonal & Trend-Based Marketing: Align promotions and stocking based on monthly/quarterly revenue trends and top purchasing months, particularly for electronics and grocery.
- Improve Customer Experience: Regularly monitor feedback trends and address negative feedback quickly to sustain high satisfaction levels.
- Leverage Data for Personalization: Use purchase history and segment data to customize product recommendations, bundles, and discounts.

Thank you very much!

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