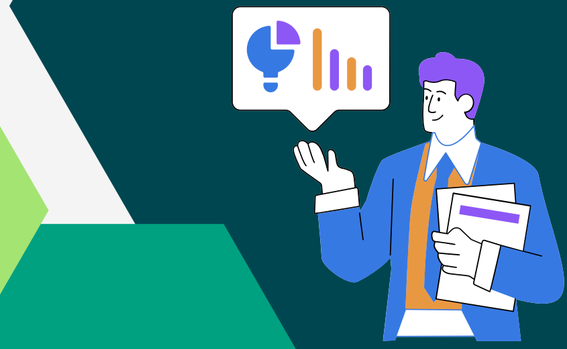
Amazon Sales Analysis



Introduction

Purpose

To provide an in-depth analysis of Amazon's sales data.

Scope

Product performance, sales trends, and customer segmentation.

Method

Data wrangling, feature engineering, and exploratory data analysis.

Data Overview

Branch& City

Cities of Myanmar

Branch A: Yangon
Branch C: Naypyitaw
Branch B :Mandalay

Product lines

- *Electronic accessories*
- *Fashion accessories*
- *Food and beverages*
- *Health and beauty*
- *Home and lifestyle*
- *Sports and travel*

Customer type

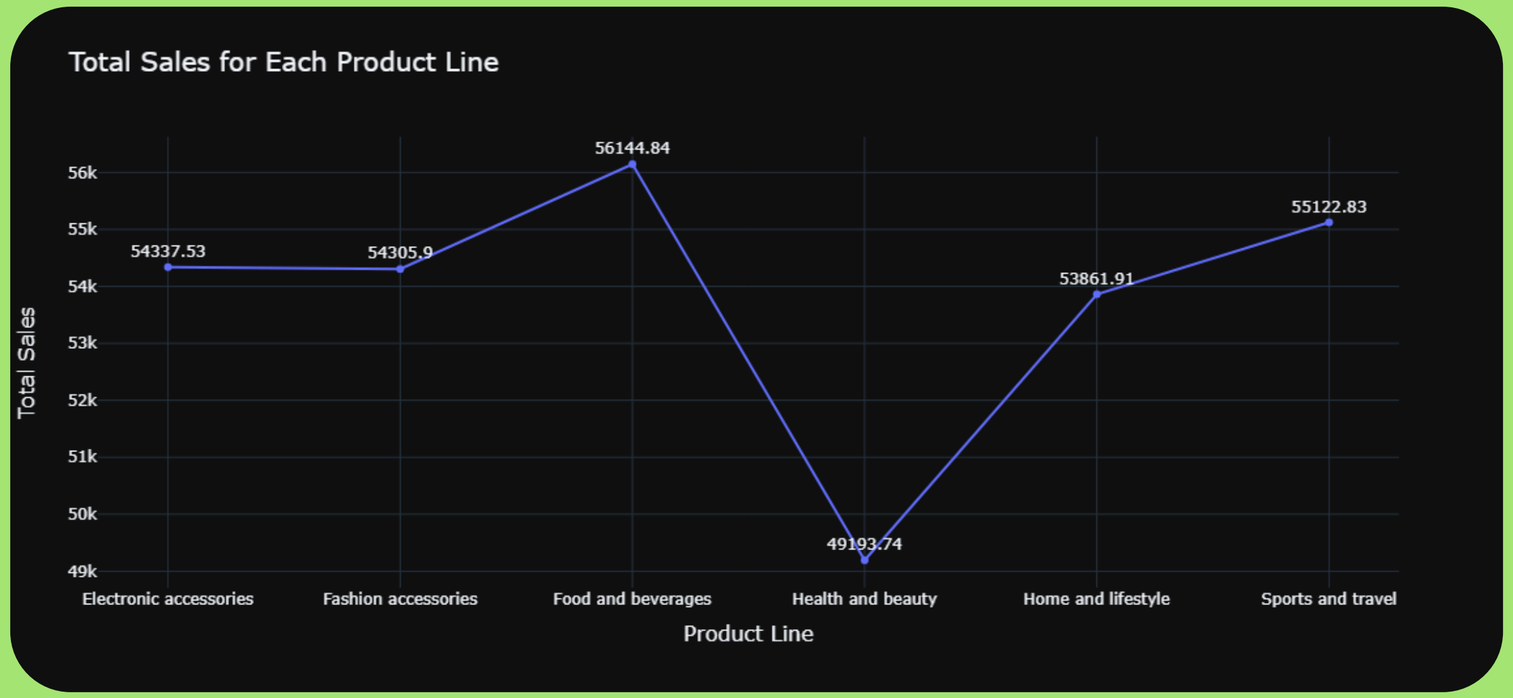
- *Member*
- *Normal*

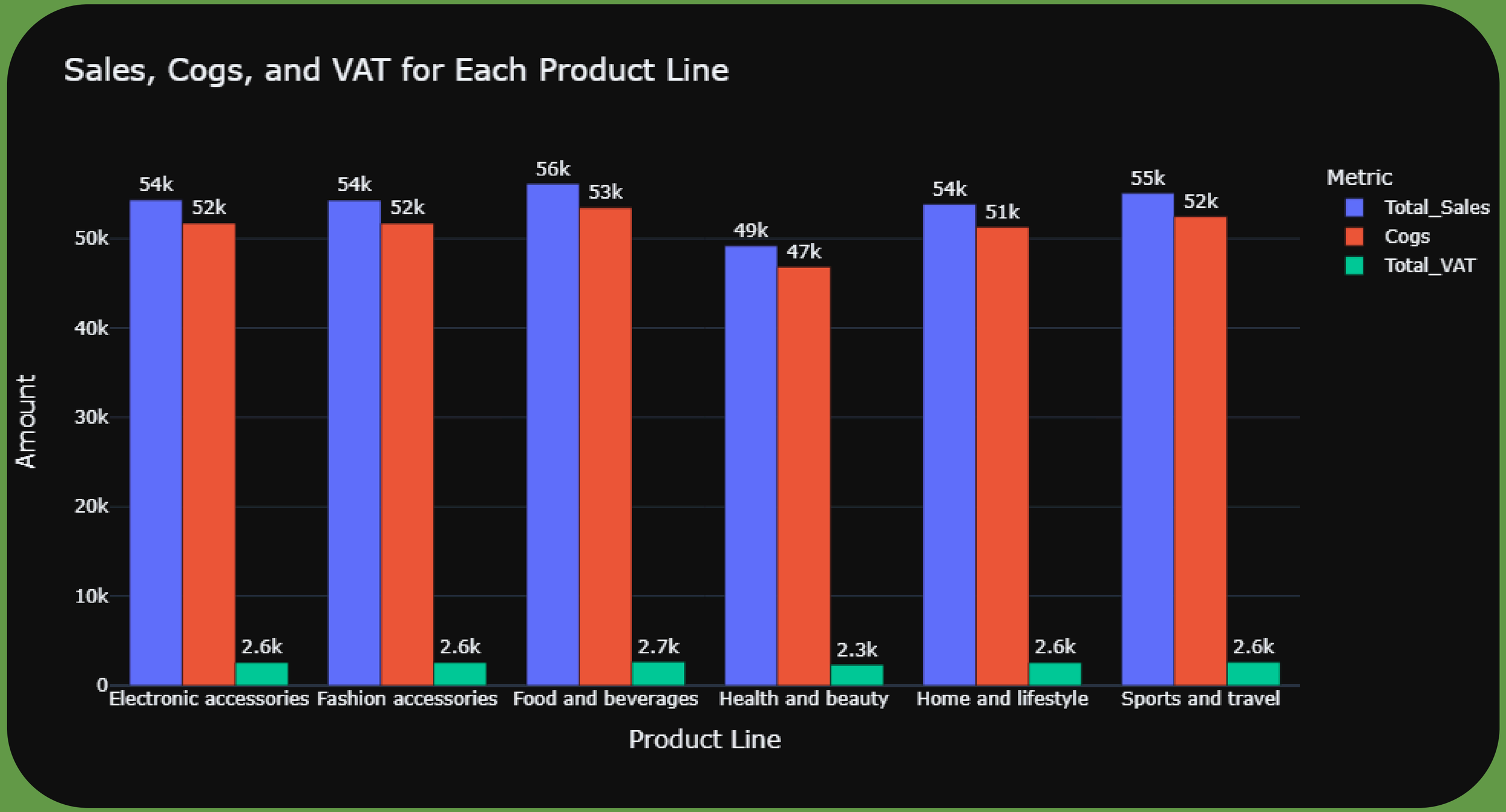
Sales

- ***Total Sales: 322966.75***
- ***Gross Income:15379.37***
- ***Cogs :307587.38***

Product Analysis

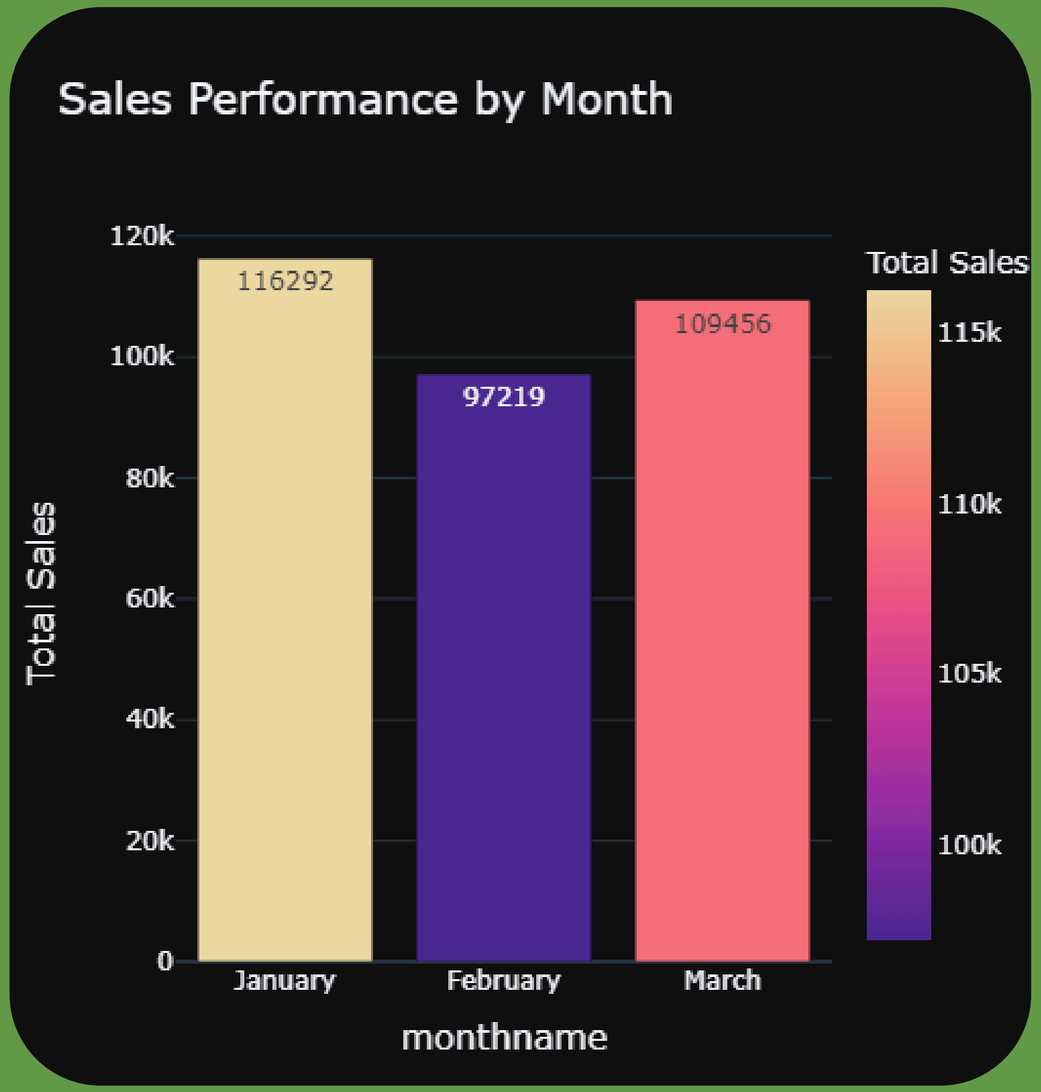
- Product Line with the Highest Sales: Food and beverages
- Product Line with the Highest No of Products Sold: Electronic Accessories
- Product Line with the Highest Value Added Tax (VAT): Food and beverages

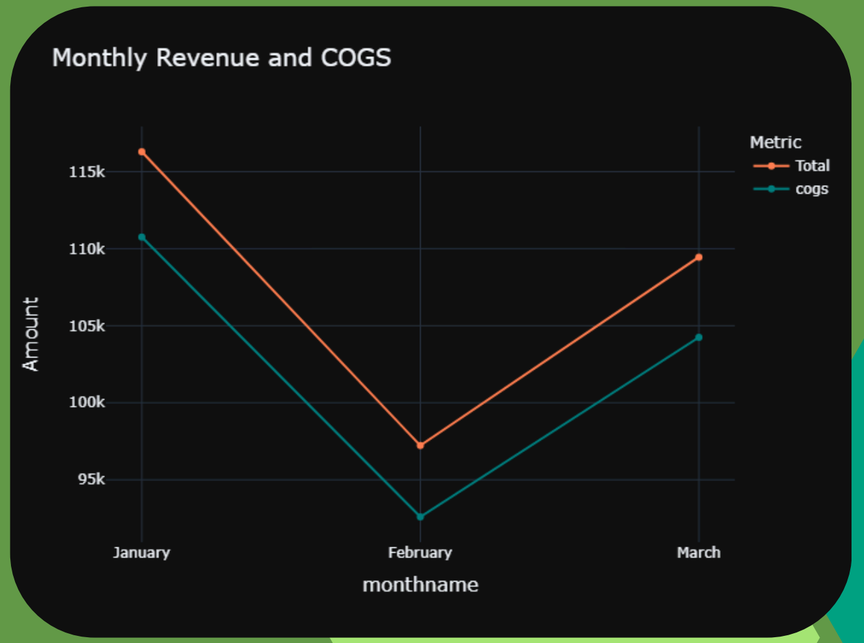



Sales, Cogs, and VAT for Each Product Line
Amount
0
10k
20k
30k
40k
50k
54k
52k
2.6k
54k
52k
2.6k
56k
53k
2.7k
49k
47k
2.3k
54k
51k
2.6k
55k
52k
2.6k
Electronic accessories
Fashion accessories
Food and beverages
Health and beauty
Home and lifestyle
Sports and travel
Product Line
Metric
Total_Sales
Cogs
Total_VAT

Monthly Sales

- January: 116,291.87
- February: 97,219.37
- March: 109,455.51
- Month with the Highest Cost of Goods Sold (COGS): January

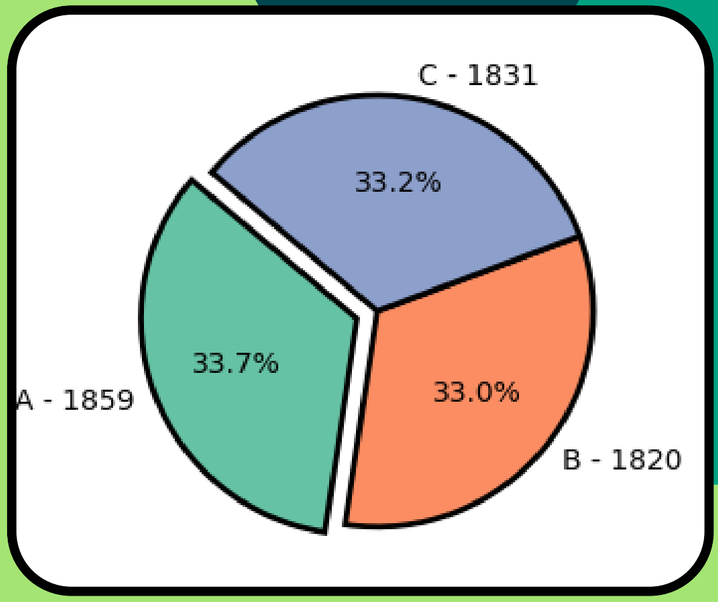


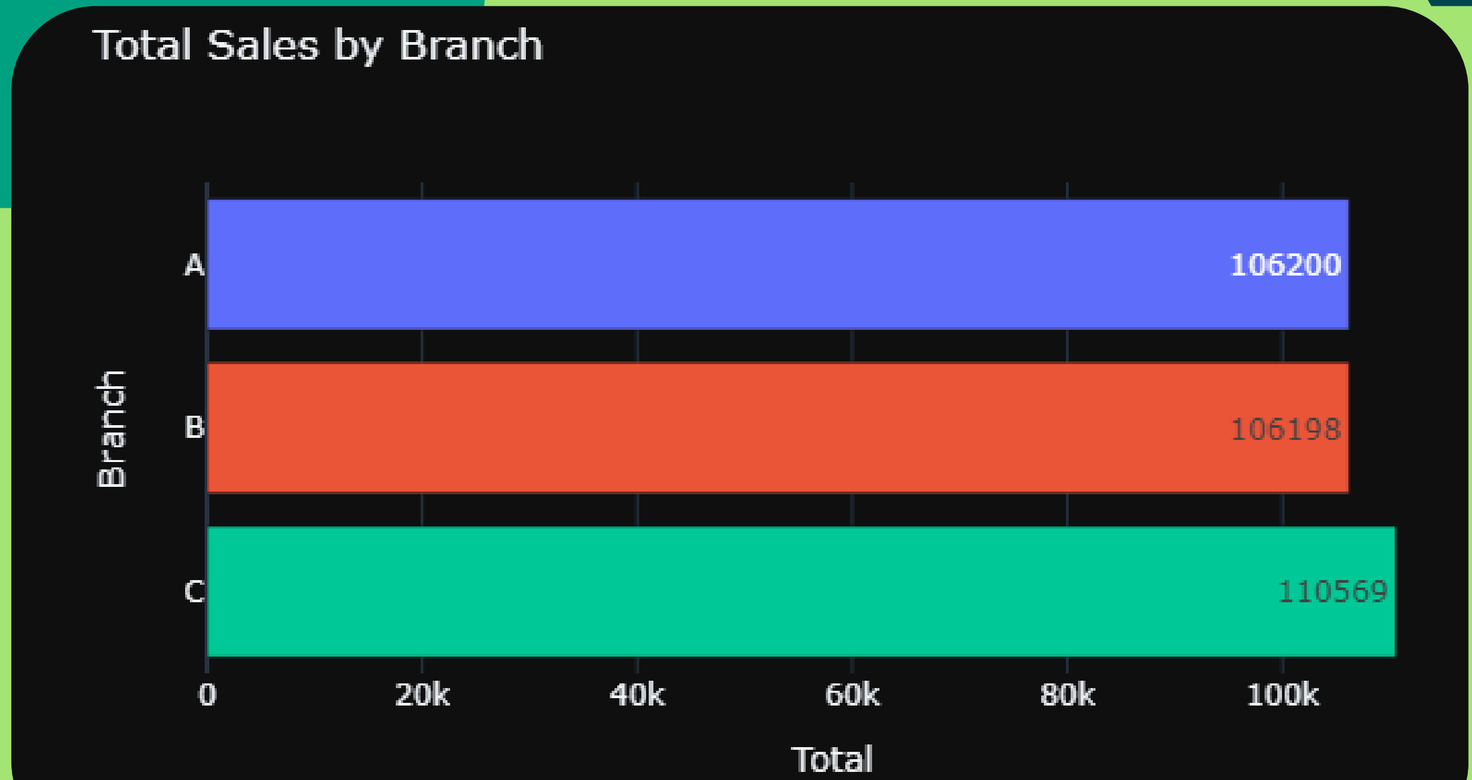


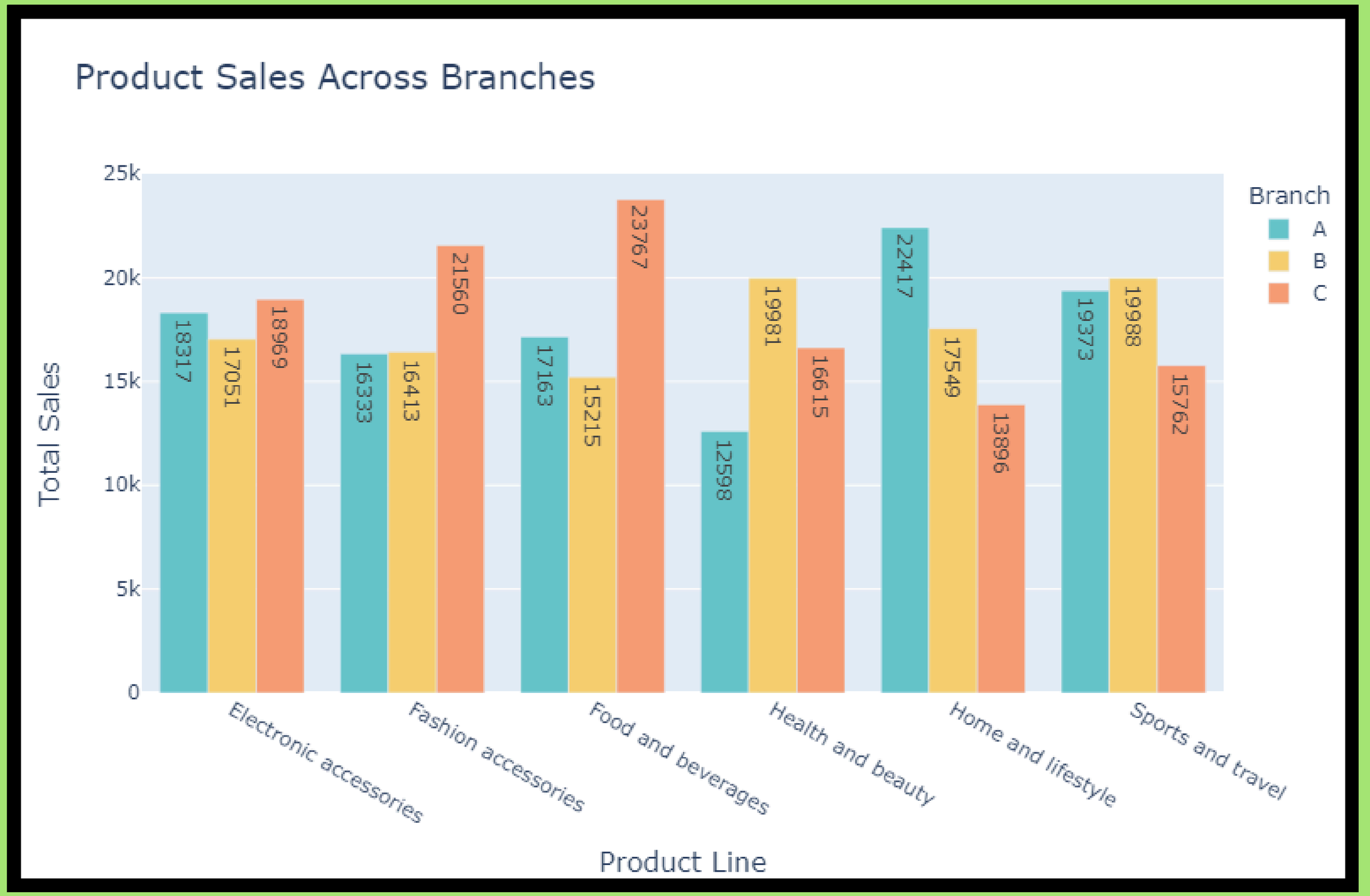
Branch Performance

Total no. of product sold from each branch

- *Branch A: 1859*
- *Branch B: 1820*
- *Branch C: 1831*

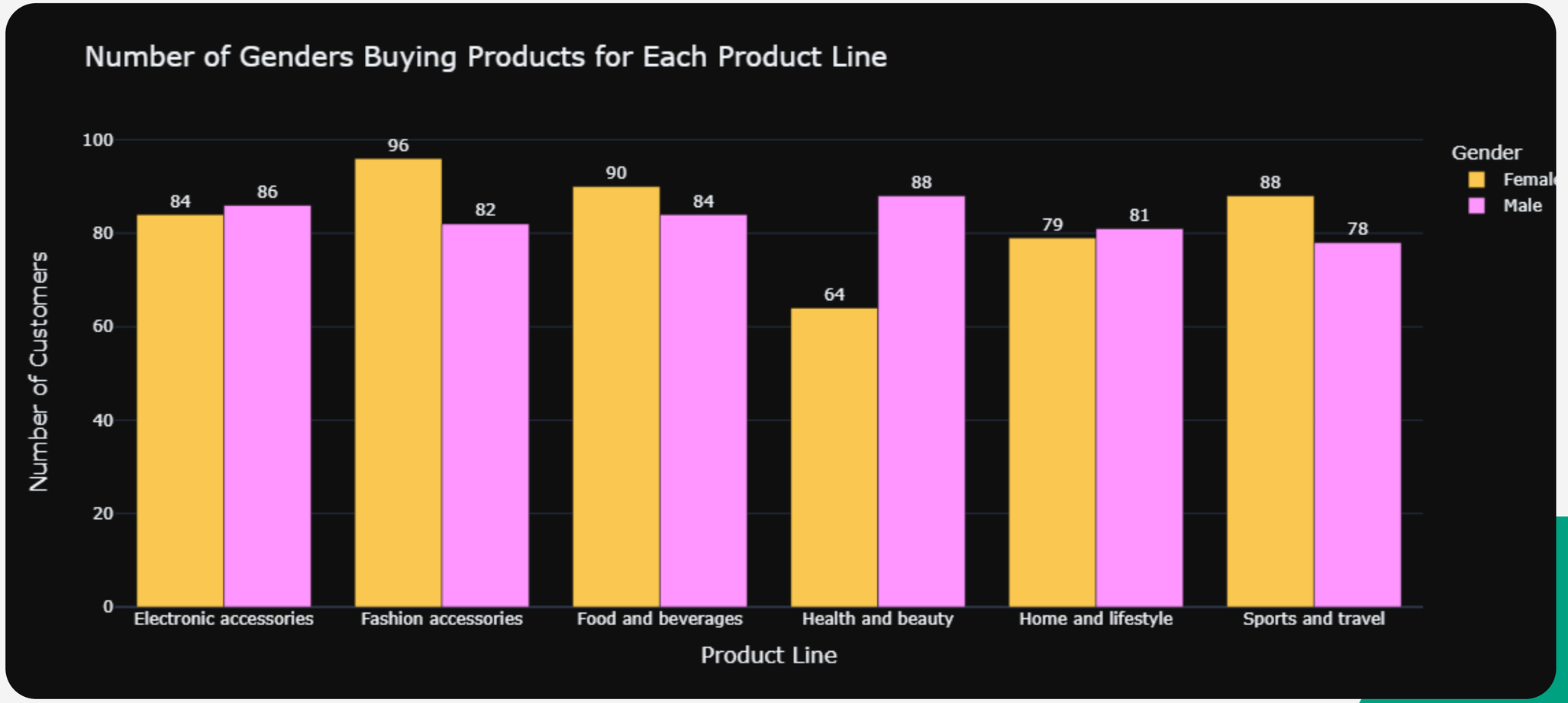





Product Sales Across Branches
Total Sales
25k
20k
15k
10k
5k
0
Branch
A
B
C
18317
17051
18969
16333
16413
21560
17163
15215
23767
12598
19981
16615
22417
17549
13896
19373
19988
15762
Electronic accessories
Fashion accessories
Food and beverages
Health and beauty
Home and lifestyle
Sports and travel
Product Line

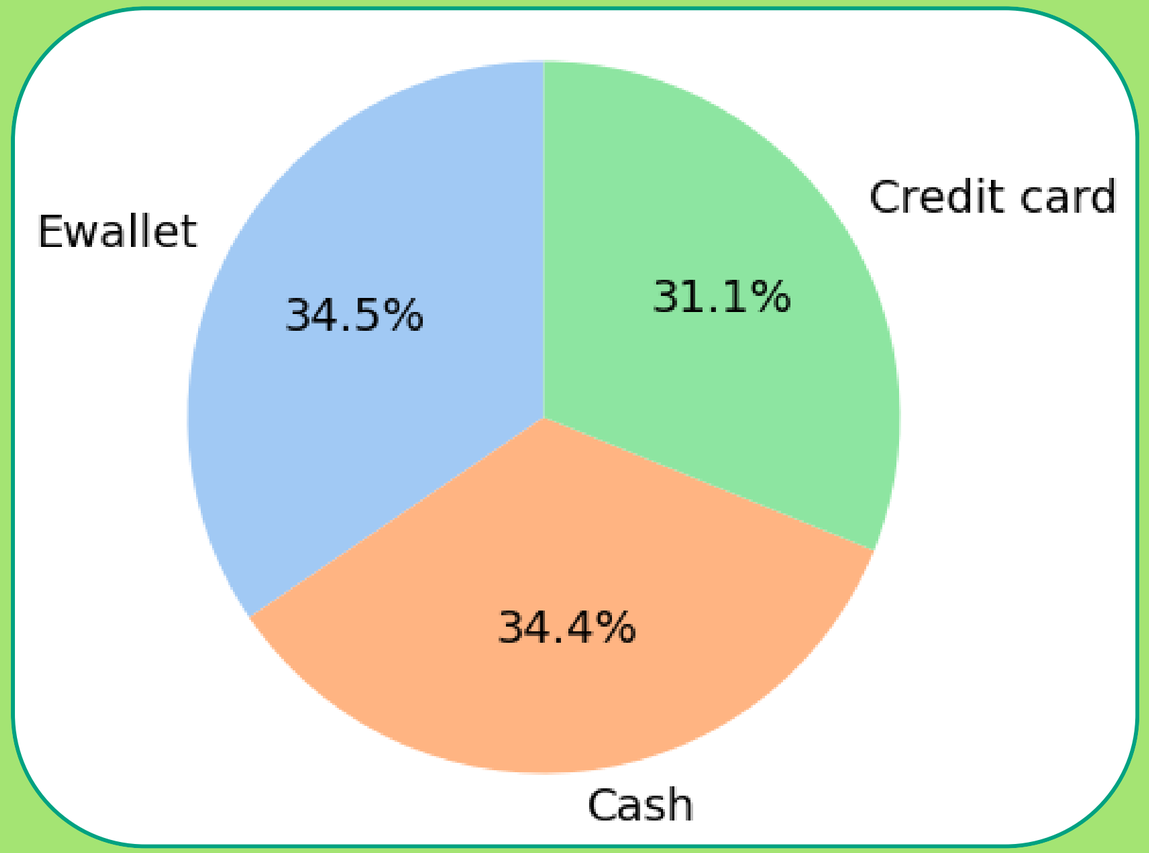
Product line Preferences by Gender

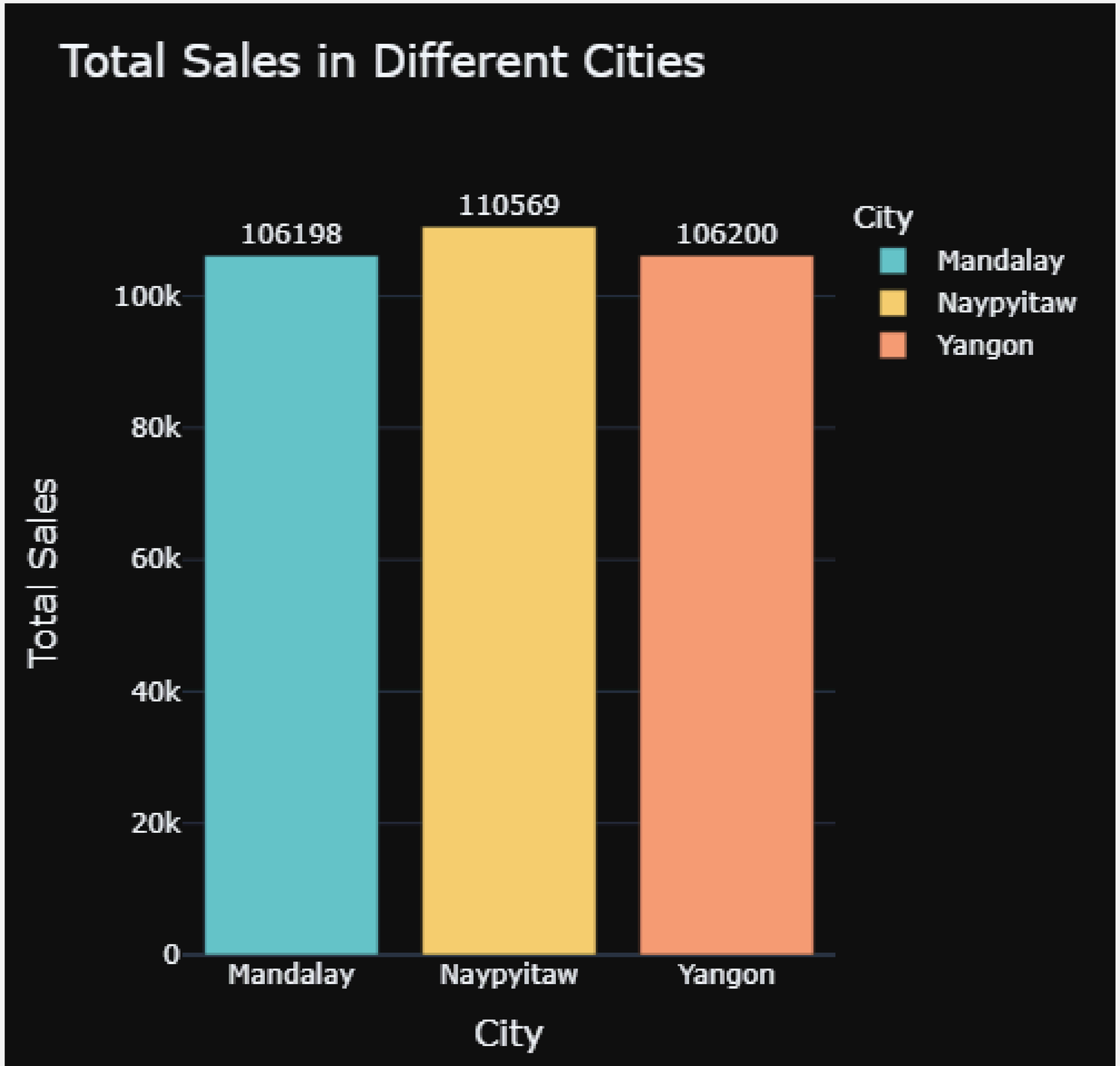
- *Female: Fashion accessories*
- *Male: Health and beauty*



Payment Methods

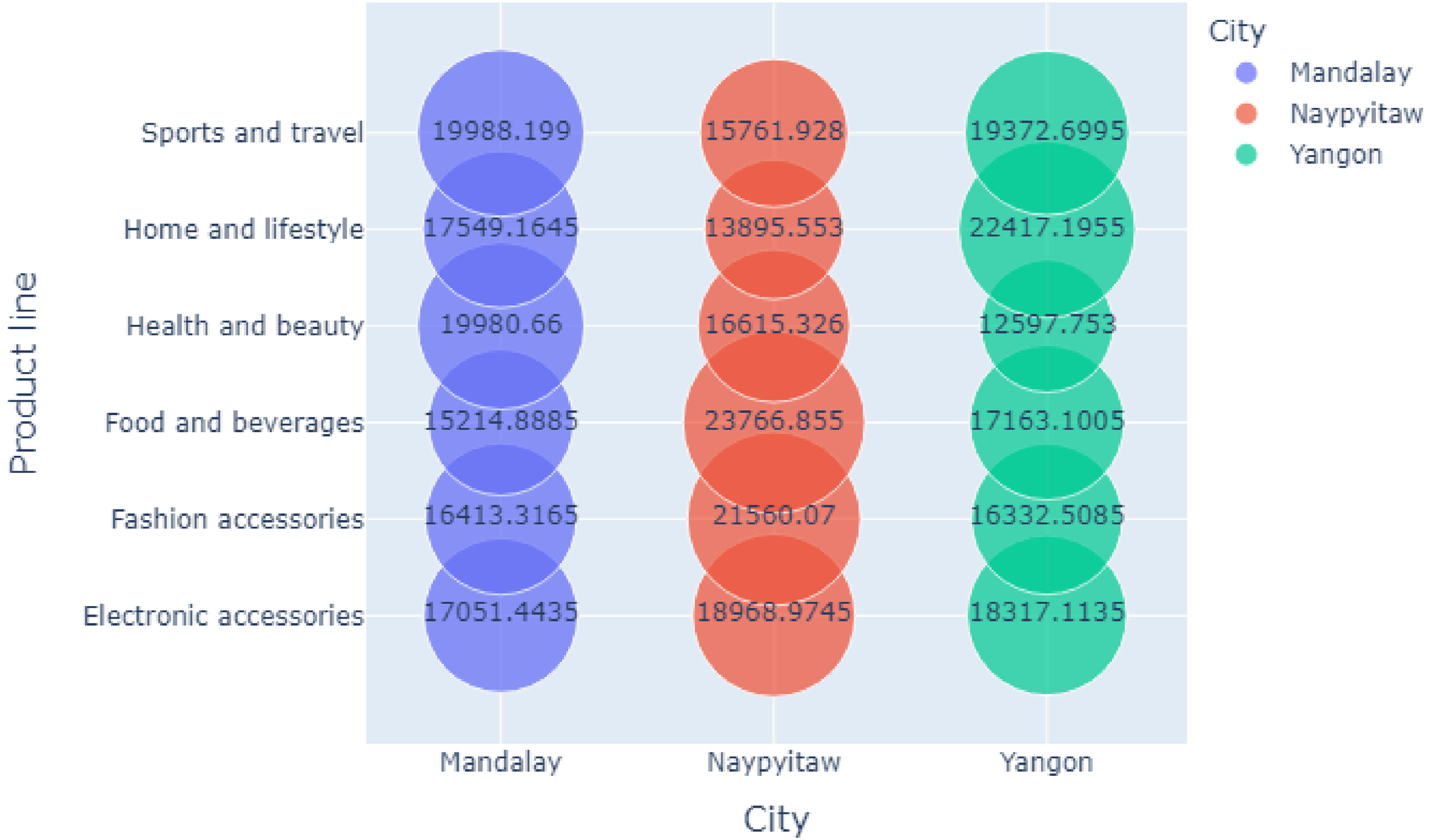
- *Distinct Payment Methods: 3 (Ewallet, Credit Card, Cash)*
- *Most Frequent Payment Method: Ewallet*



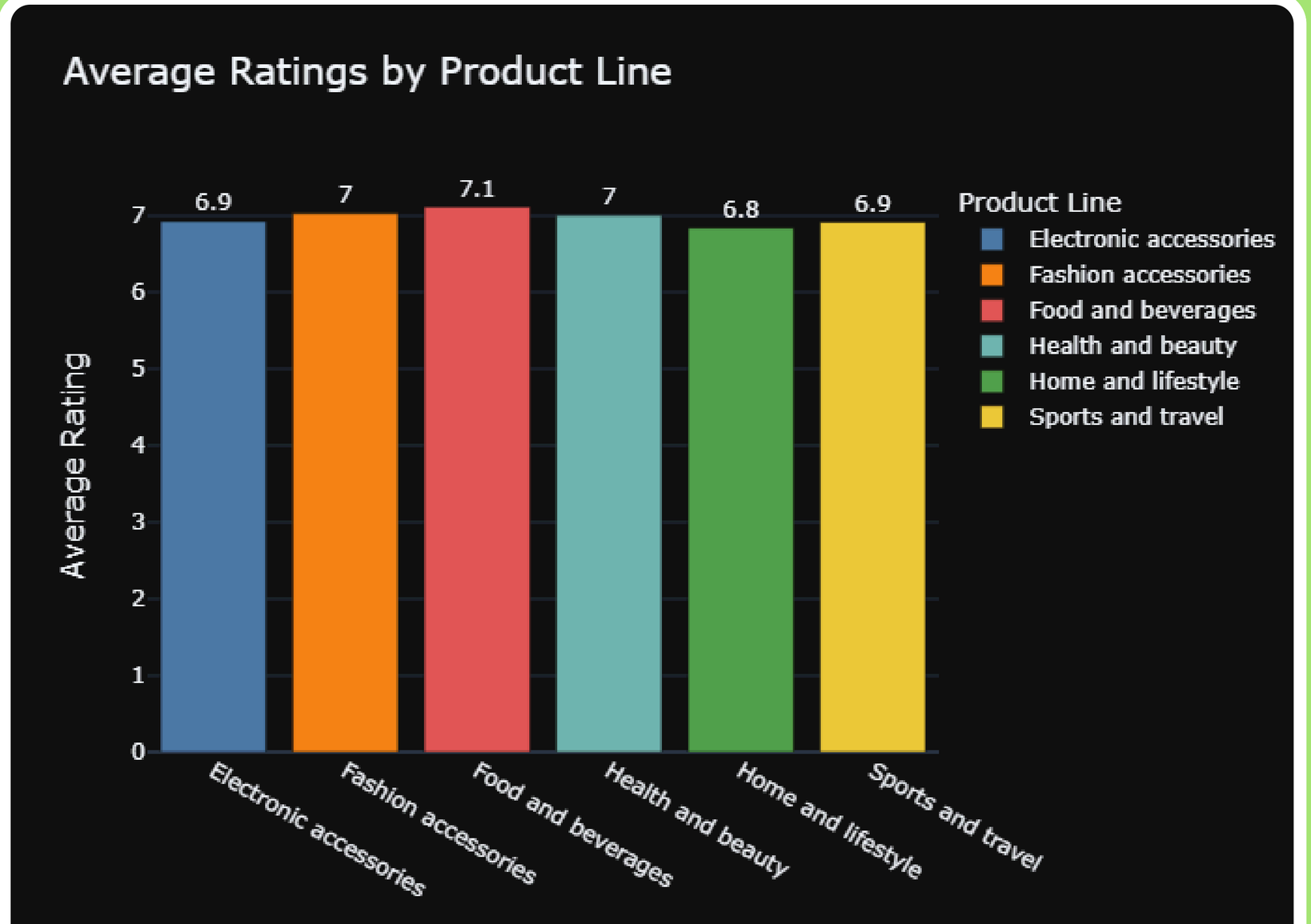


Sales in Cities

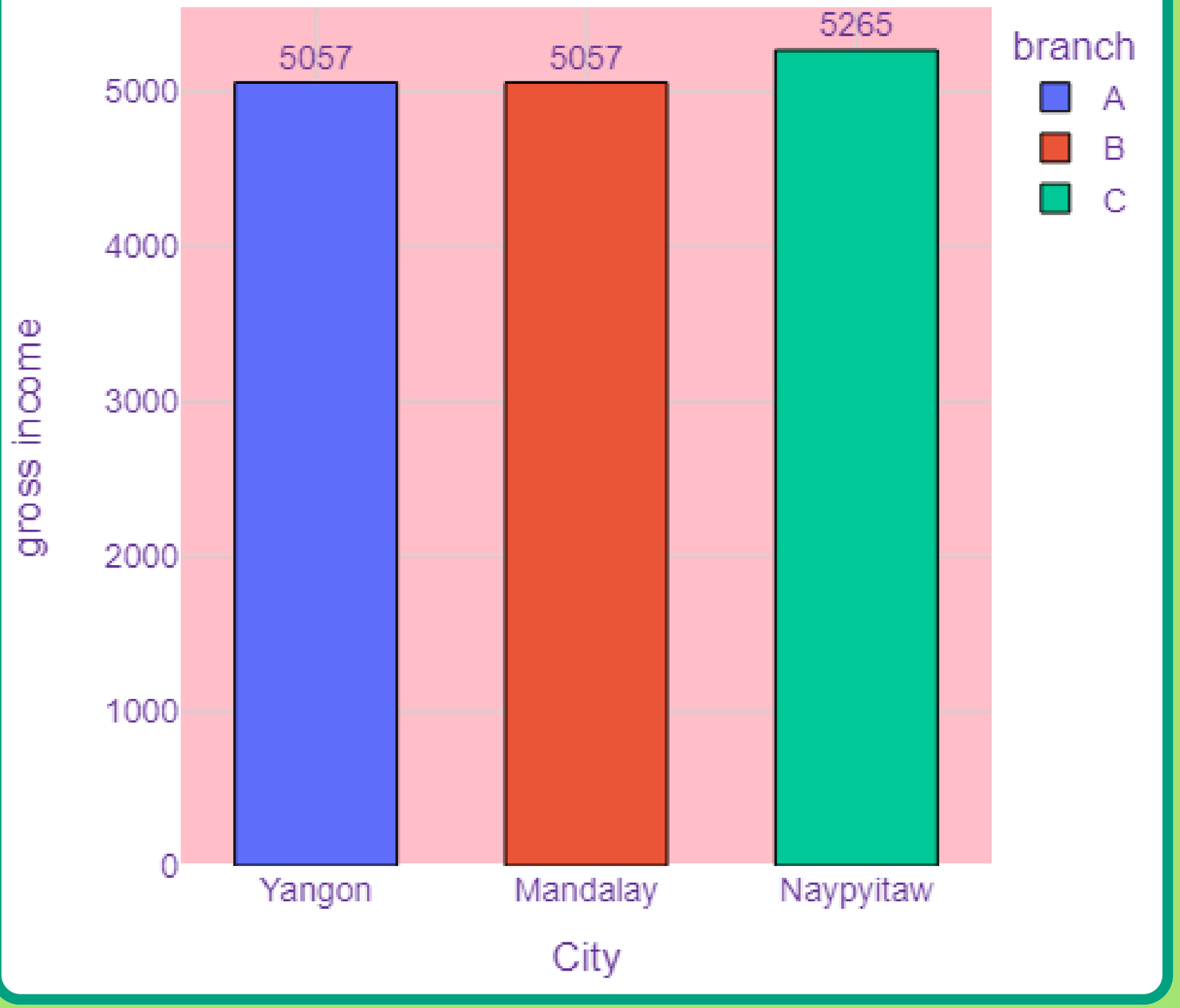
Sales by City and Product Line

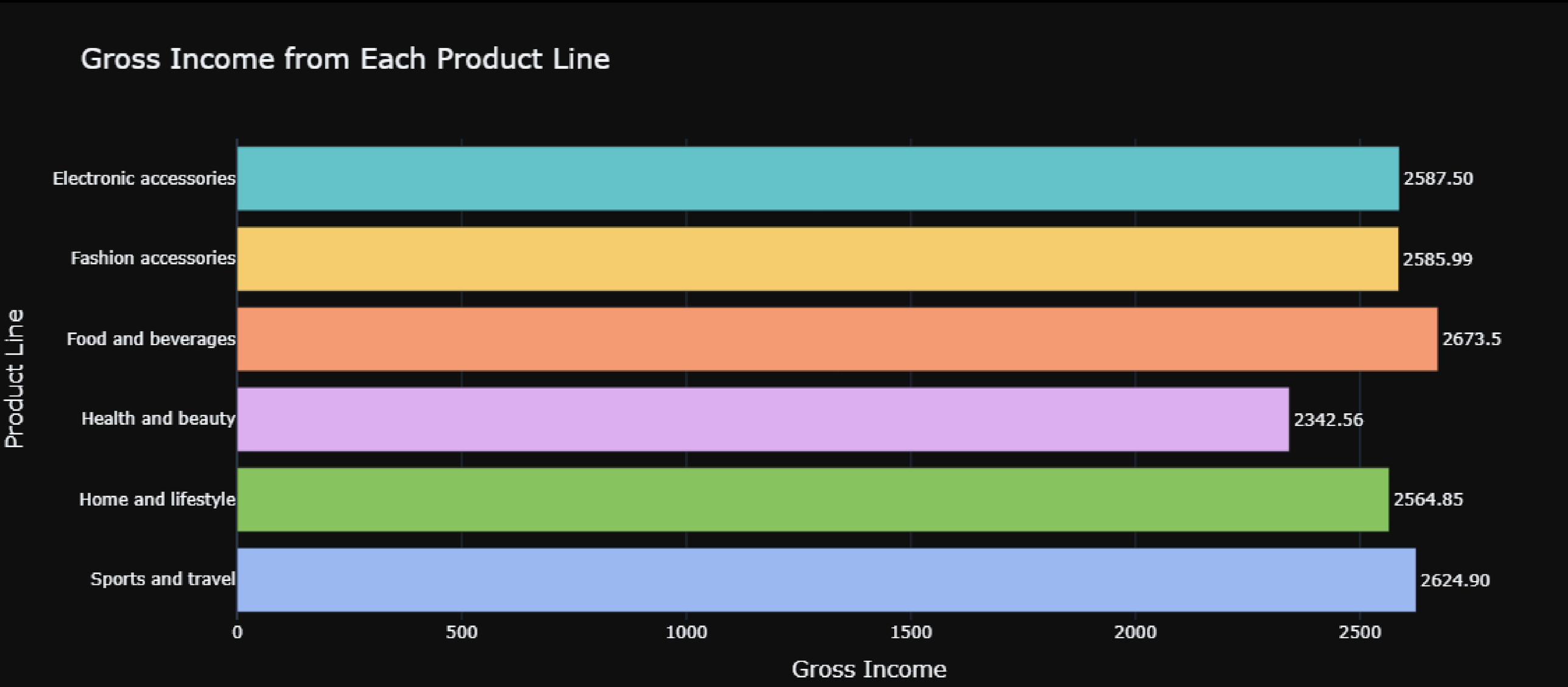


Customer Product Rating



Gross Income



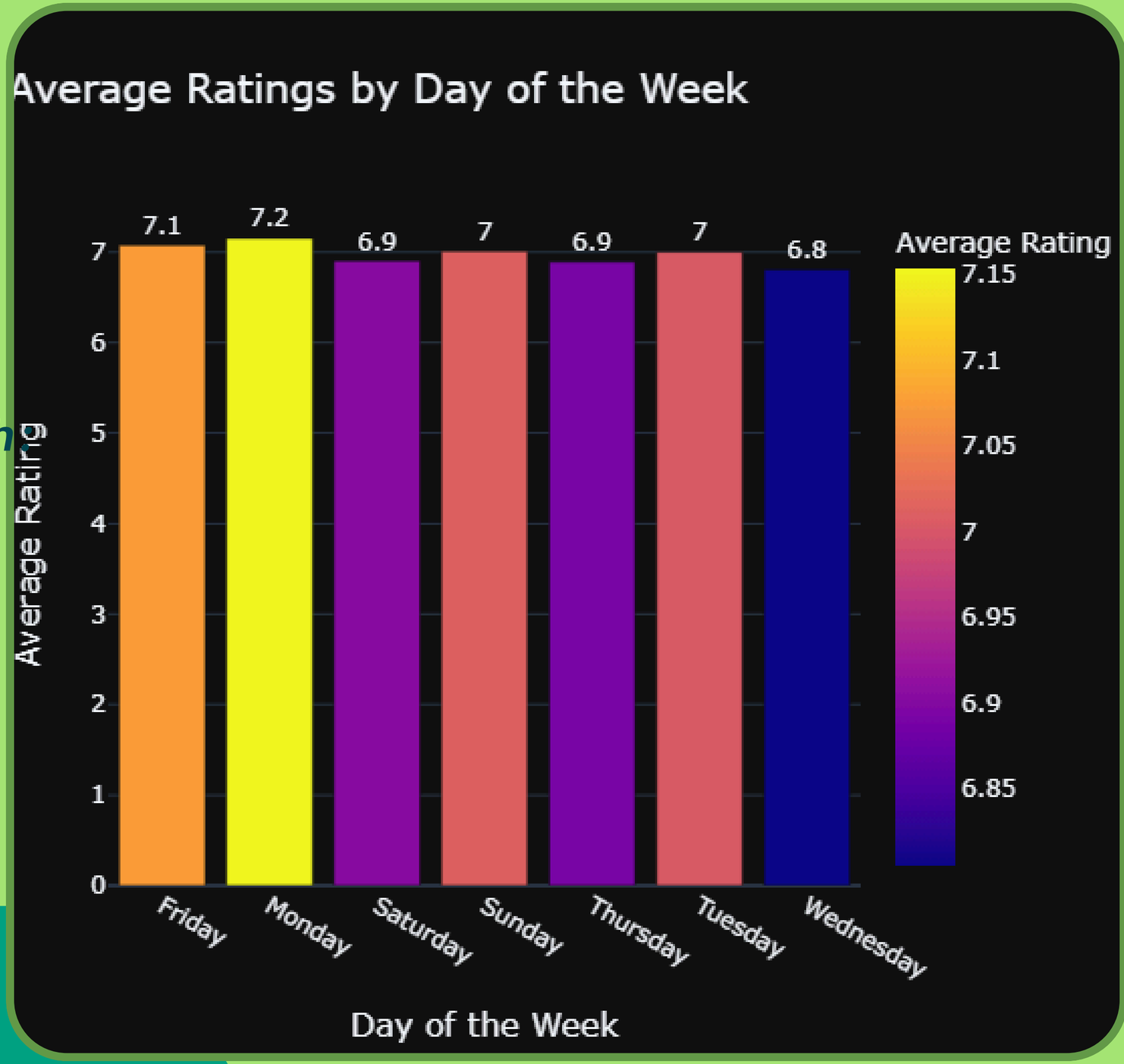

Gross Income from Each Product Line
Electronic accessories
Fashion accessories
Food and beverages
Health and beauty
Home and lifestyle
Sports and travel
2587.50
2585.99
2673.5
2342.56
2564.85
2624.90
Product Line
0
500
1000
1500
2000
2500
Gross Income

Weekly Rating

- *Day of the Week with the Highest Average Ratings: Monday*

Highest Average Ratings for Each Branch

- *Branch A: Friday, Sunday, Thursday, Tuesday*
- *Branch B: Monday*
- *Branch C: Saturday, Wednesday*

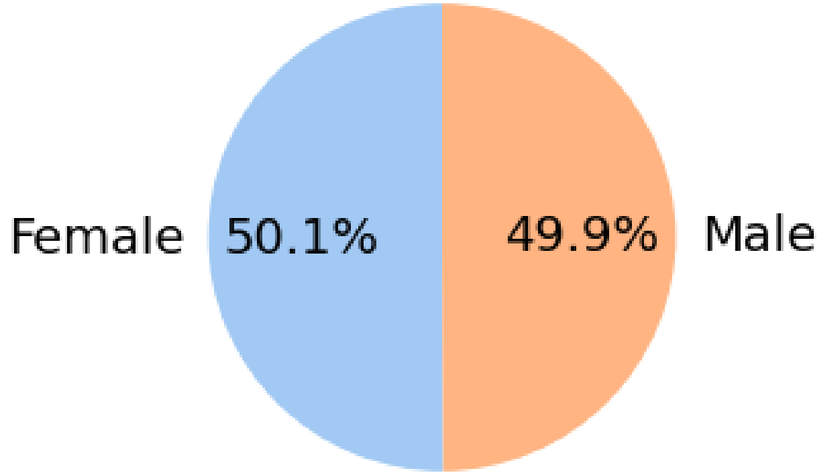


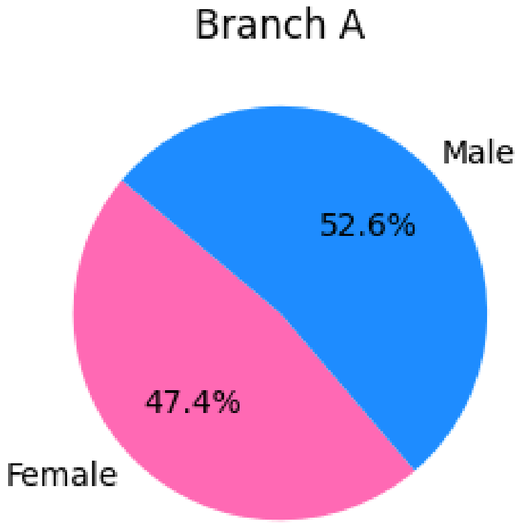
Customer Demographics

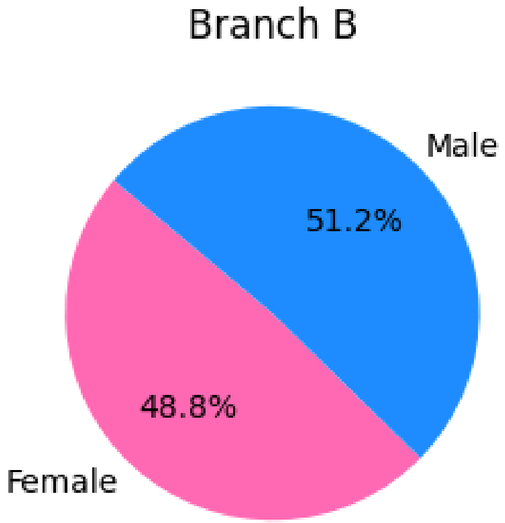
- *Predominant Gender: Female*

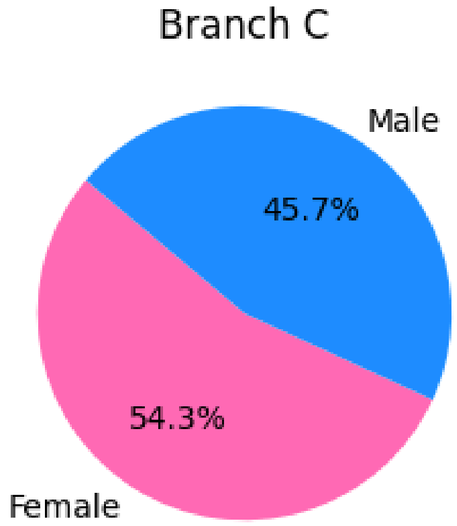
Gender Distribution by Branch:

- *Branch A: 161 Female, 179 Male*
- *Branch B: 162 Female, 170 Male*
- *Branch C: 178 Female, 150 Male*



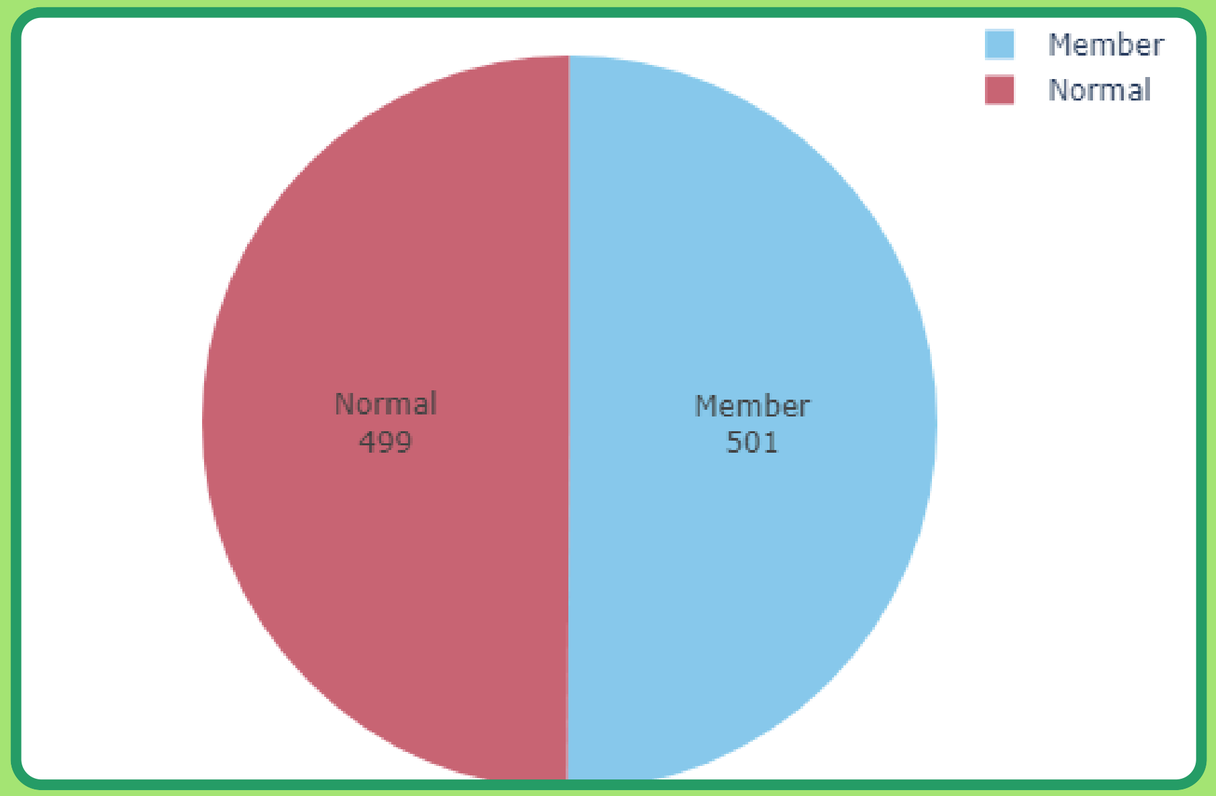




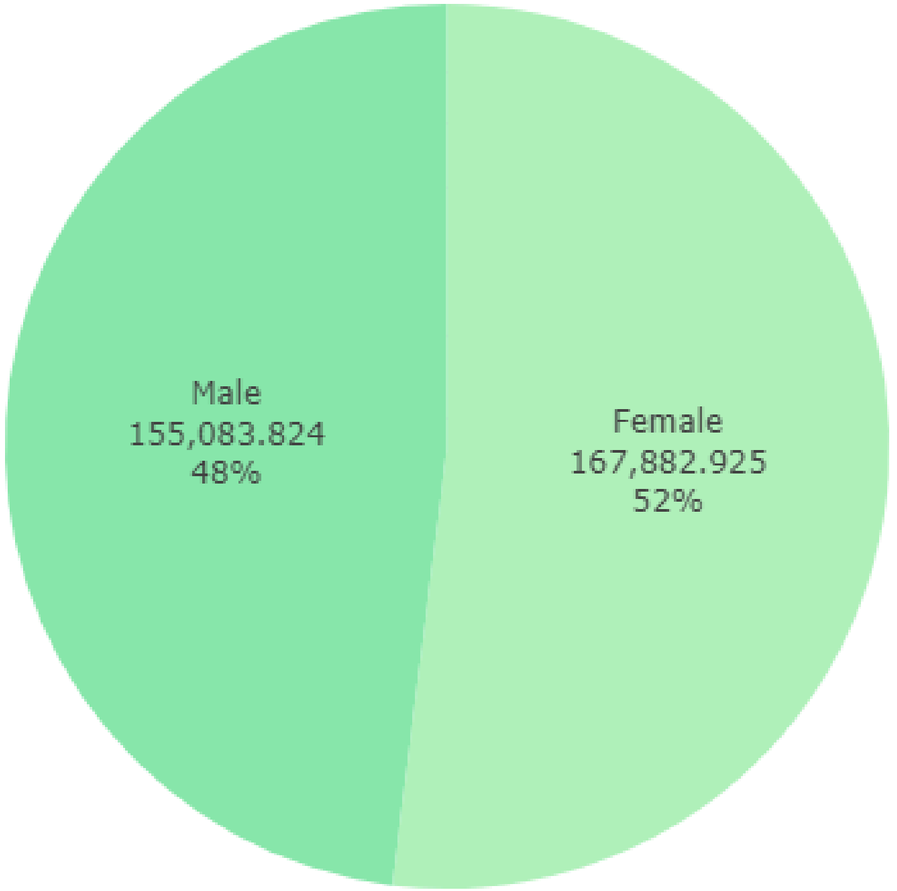


Customer Segmentation

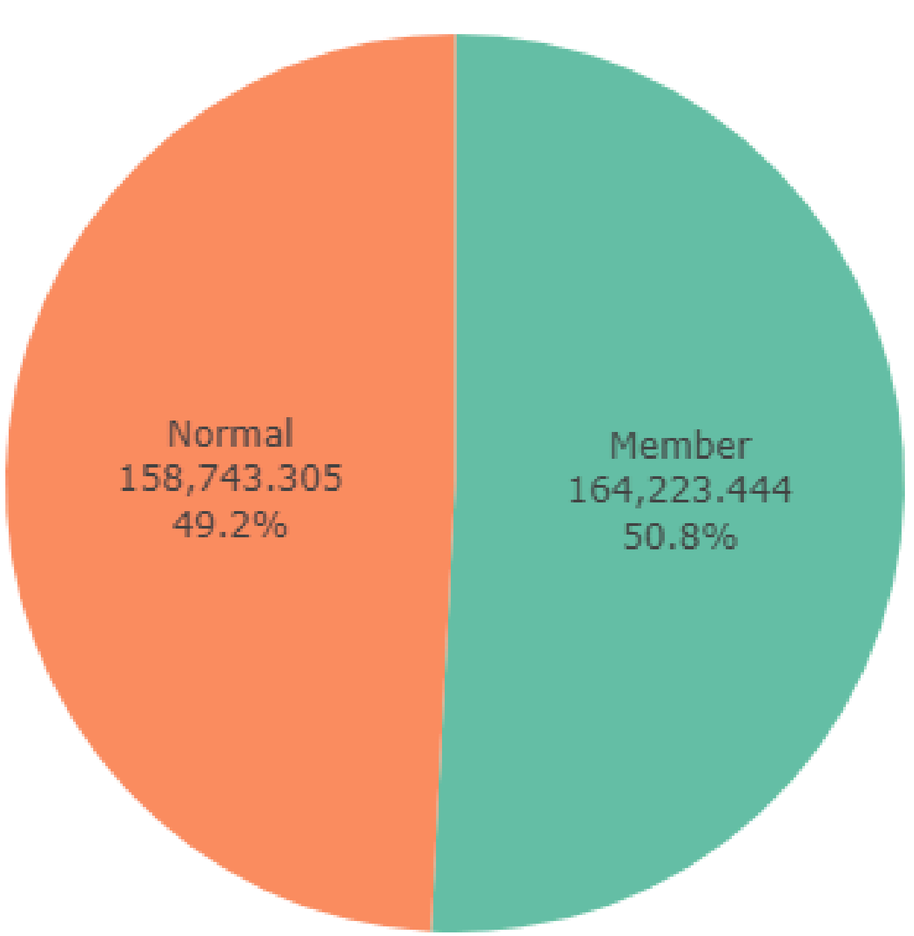
- *Distinct Customer Types: 2 (Members, Non-members)*
- *Most Frequent Customer Type: Member*
- *Highest Revenue and Purchase Frequency: Members*



Gender Distribution: Proportion of Sales by Gender



Revenue Contribution by Customer Type

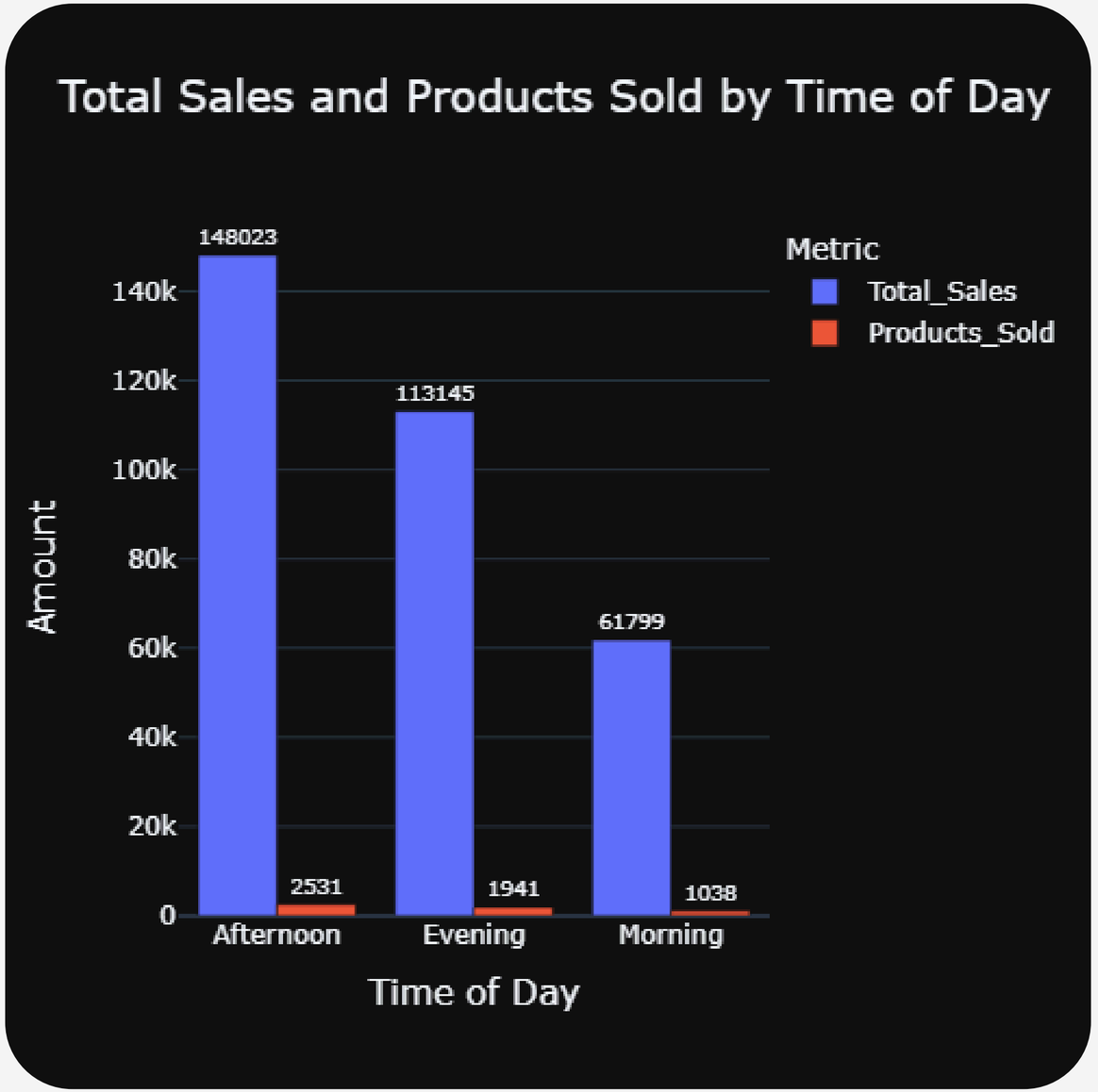


Sales Occurrence Analysis

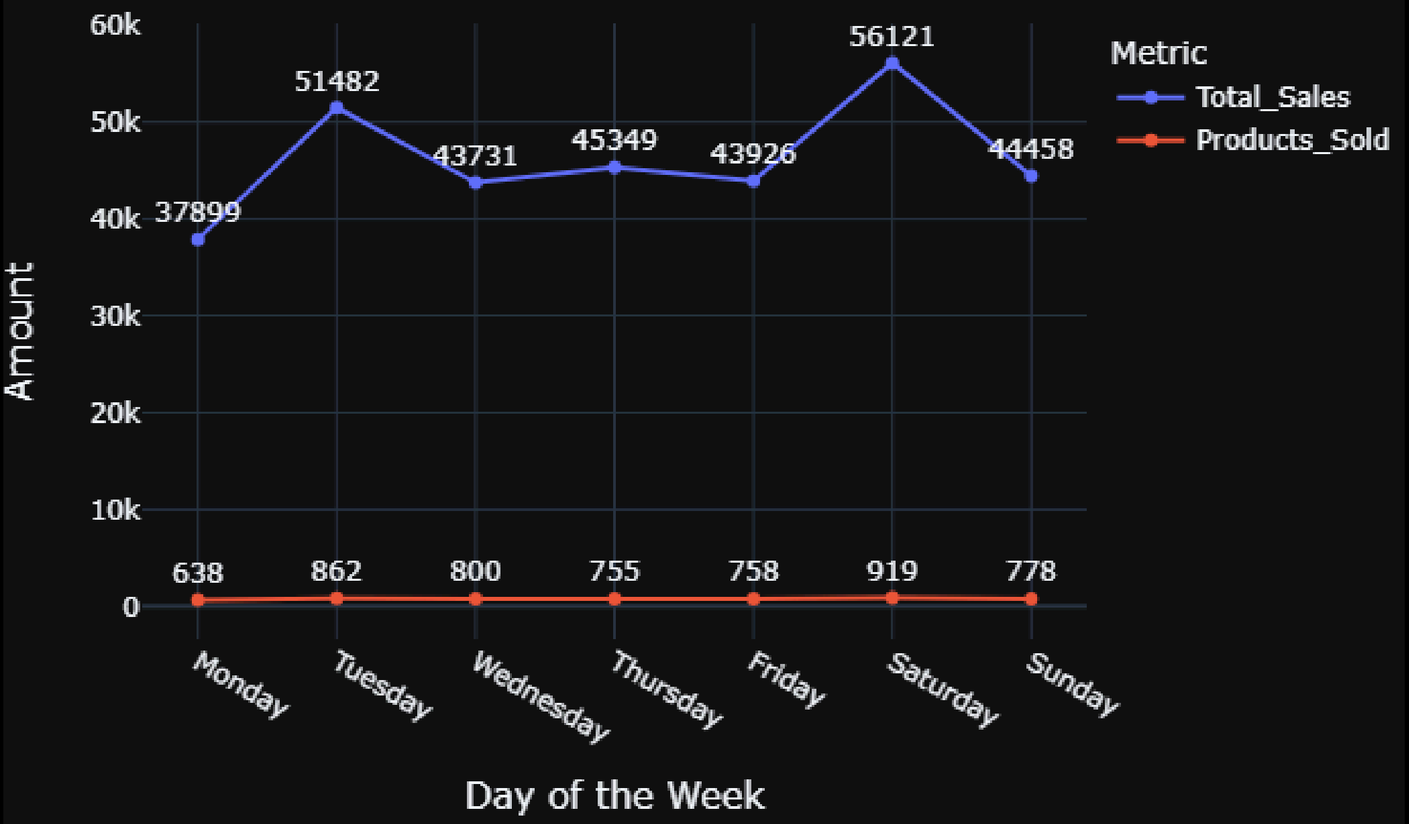
- *Peak Sales Period: Afternoon*

Highest Customer Ratings by Time:

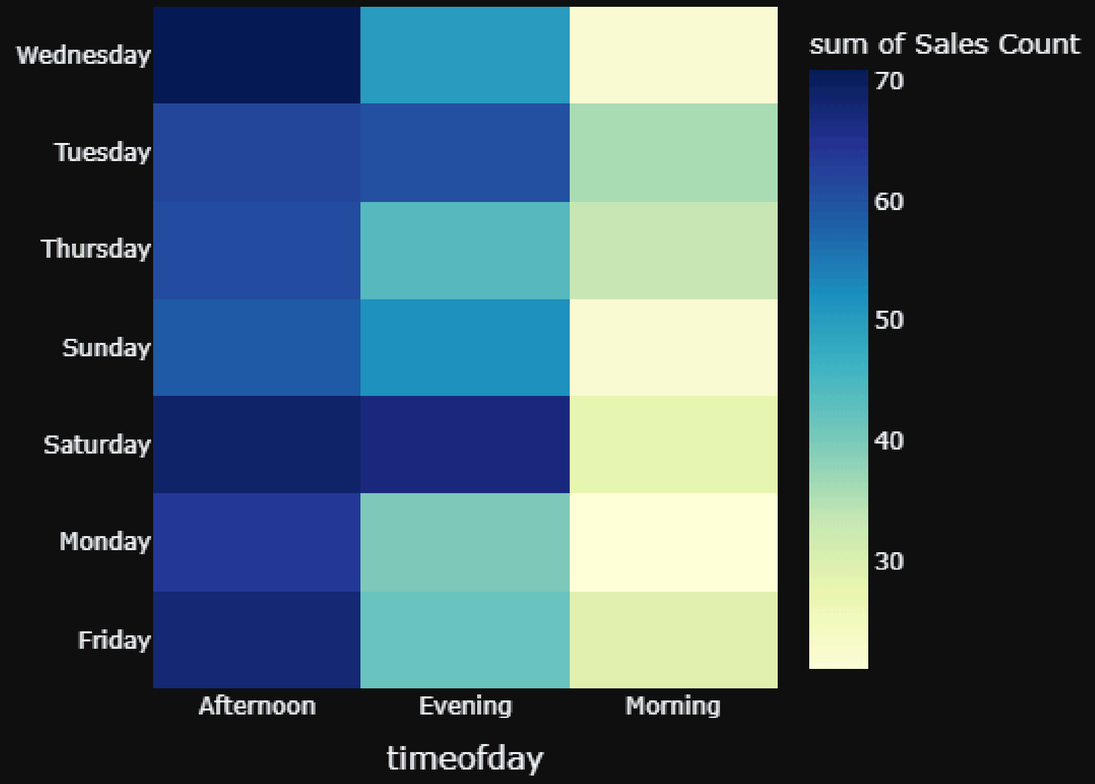
- *Branch A: Afternoon and Morning*
- *Branch C: Evening*



Total Sales and Products Sold by Day of the Week

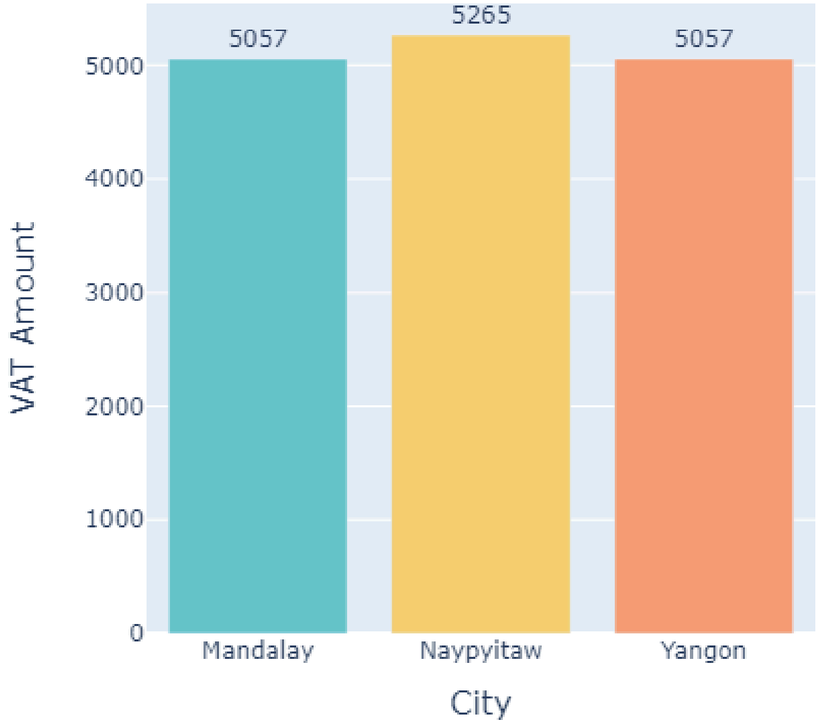


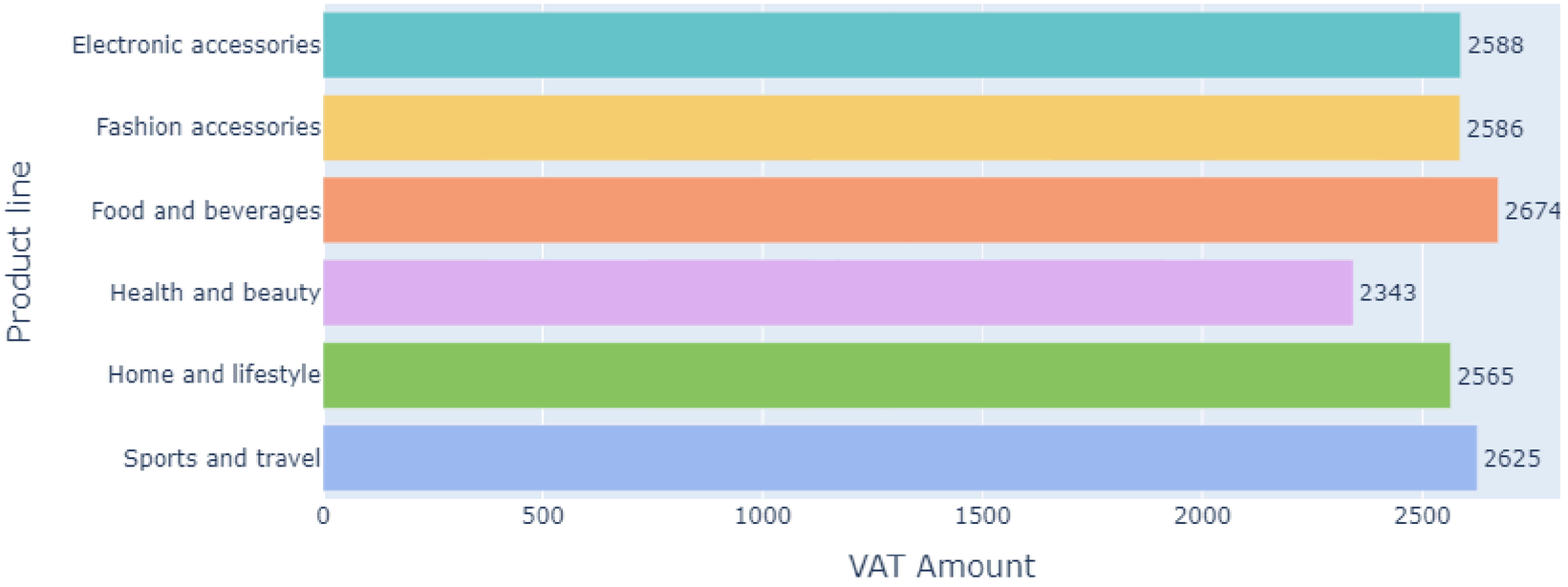
Sales Occurrences by Time of Day and Weekday

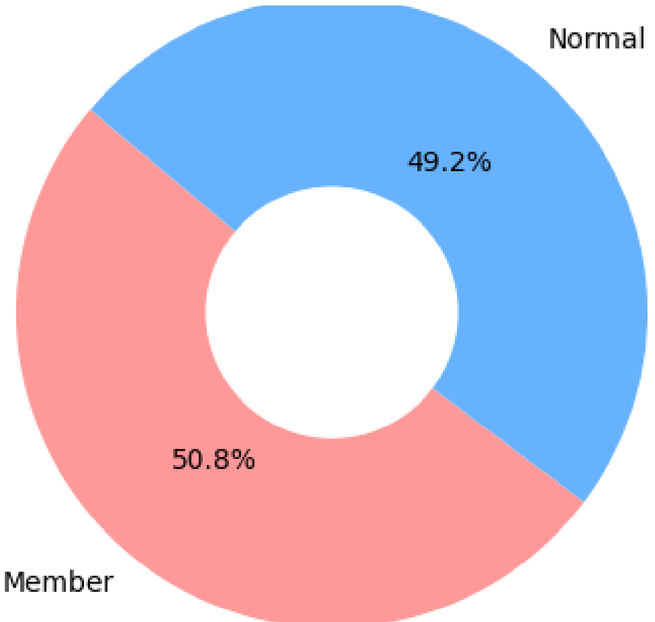


VAT(value added tax) Analysis

- *Highest VAT by City : Naypyitaw*
- *Highest VAT by Product Line :Food and beverages*
- *Highest VAT by Customer Type : Member*







Key Insights and Recommendations

--------Product Insights---------

1. ***Focus on Food and Beverages:***

- *High Performance: This product line not only has the highest sales but also the highest revenue and VAT, indicating strong customer demand.*
- *Strategic Actions: Prioritize stock management and promotional activities for this category to maintain and boost performance.*

2. ***Improve Underperforming Product Lines:***

- *Identification and Analysis: Identify and closely examine the product lines having low sales understand the reasons for their lower performance.*
- *Strategic Improvements: Develop targeted strategies to improve these underperforming product lines, such as better marketing, enhanced product features, or pricing adjustments.*

3 ***.Leverage High-Rating Product Lines:***

- *Marketing Leverage: Product lines like Food and Beverages, and Fashion Accessories have higher average ratings.*
- *Promotional Strategy: Highlight these positive ratings in marketing campaigns to attract more customers and boost sales.*

Sales Strategies

Maximize Peak Sales Periods:

- Timing Focus: Concentrate marketing efforts and special promotions during the afternoon and in January when sales and revenue are at their peak.
- Sales Optimization: Utilize this timing to maximize overall sales and revenue.

Enhance Customer Experience:

- Afternoon Focus: High ratings in the afternoon indicate customer satisfaction during this period.
- Experience Enhancement: Improve the shopping experience during the afternoon to retain existing customers and attract new ones.

Target High-Revenue Cities:

- Regional Strategies: Implement specific strategies for Naypyitaw and Mandalay to further increase sales in these high-revenue cities.
- Localized Marketing: Develop region-specific marketing campaigns and promotional offers.

Customer

Engage Members:

- Loyalty Programs: Members are the most frequent and high-revenue customer type.
- Retention Strategies: Develop loyalty programs and exclusive offers to retain and expand this customer segment.

Gender Specific Marketing:

- Marketing Tailoring: Use the gender distribution data to create tailored marketing strategies.
- Product Promotion: For example, promote Fashion Accessories more to female customers and Health and Beauty products to male customers.

Optimize payment methods:

- Ewallet Optimization: Ewallet is the most frequently used payment method.
- Transaction Enhancement: Ensure seamless and secure transactions through this method to enhance customer satisfaction and encourage its use.