Analysis of Company XYZ Supermarket data across the Country.

Khairat Ayinde.

Introduction

- **Company XYZ** owns a supermarket chain across the country. Each major branch located in 3 cities(Lagos, Abuja and Port harcourt) recorded sales information for 3 months in 2019.

- This report explains the processes and insights uncovered that can help the company to understand sales trends and determine its growth, as the rise of supermarkets competition is seen to increase.

- Data information: The data folder contains datasets from the three branches which contains the same attribute information.

Data overview

The data was gathered from the Ustacky GitHub repository and the description of features are listed below:

•**Invoice ID:** Customer Identification number

•**Branch:** Supermarket Branch across the country (A, B, C)

A - Lagos Branch

B - Abuja Branch

C - Port Harcourt Branch

•**City:** Supermarket Location

•**Customer Type:** Type of customers, Members - Returning customer with membership card, Normal - Customer without membership (could be returning, first-time or walk-in customer)

•**Gender:** Customer Gender Information

•**Product line:** Product categorization groups - Electronic accessories, Fashion accessories, Food and beverages, Health and beauty, Home and lifestyle, Sports and travel

•**Unit Price:** Price of each product in Naira

- **Quantity:** Number of products purchased by customer
- **Tax:** 5% tax fee for customer buying

- **Total:** Total price including tax

- **Date:** Date of purchase (Supermarket Record available from January 2019 to March 2019)

- **Time:** Purchase time (Supermarket Hours - 10am to 9pm)

- **Payment:** Payment used by customer for purchase (3 methods are available – Cash, Card and Epay)

- **COGS:** Cost of goods sold

- **Gross margin percentage:** Gross margin percentage

- **Gross income:** Gross income

- **Rating:** Customer Satisfaction rating on their overall shopping experience (On a scale of 1 to 10)

Data exploration & Analysis

- The datasets were combined and stored as a single CSV file for easy analysis.

- The data was read in, explored, cleaned and a concise summary information of the dataframe which includes the column datatypes, statistical summary, memory usage etc. for a clearer understanding and preparation for analysis.

- The date feature was converted to its appropriate datatype.

- Unique values in the categorical column was generated along side its value count.

- The appropriate use of visuals to provide answers to some questions and uncover insights
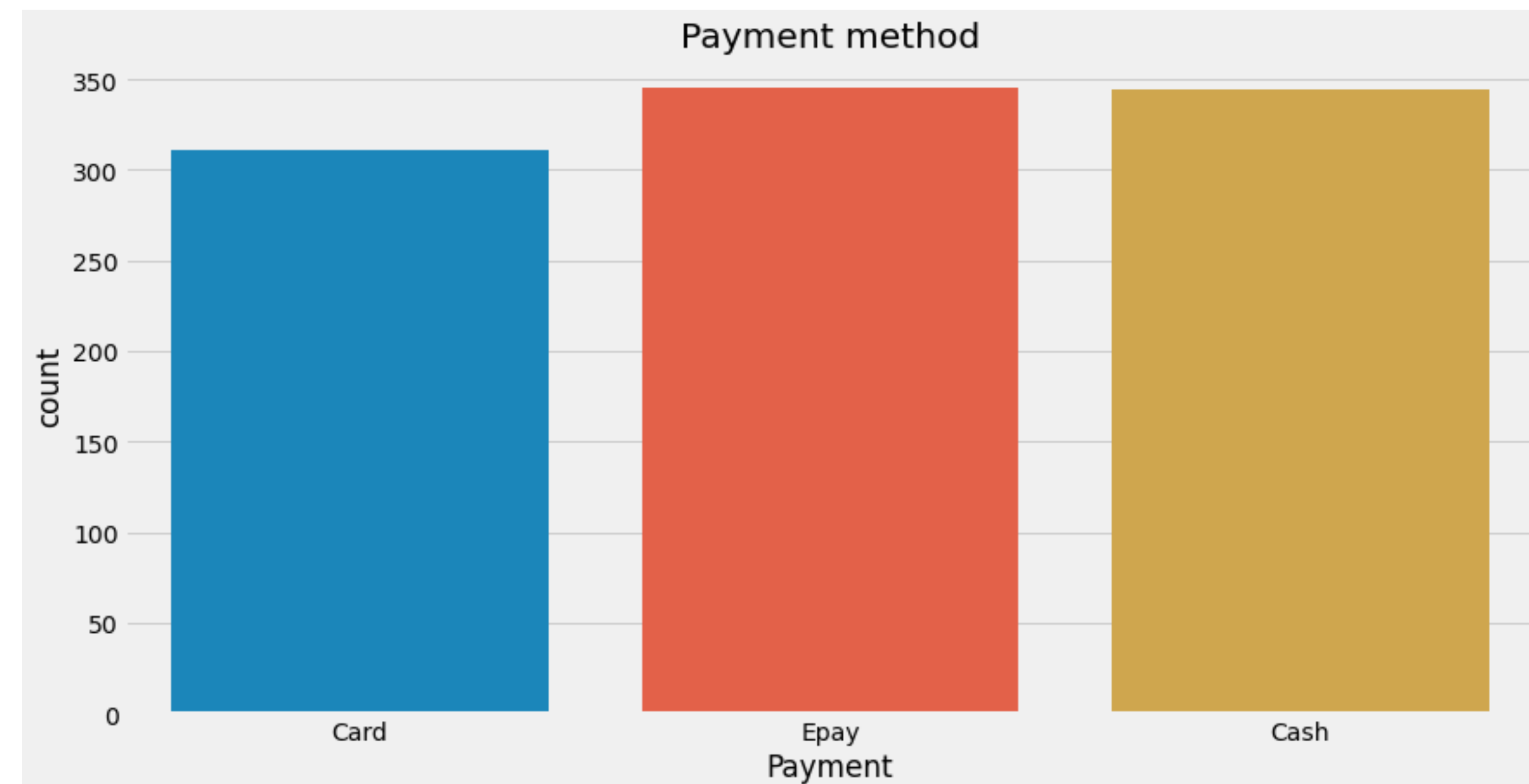
Insight summary

- Data is cleaned, no outlier or missing value

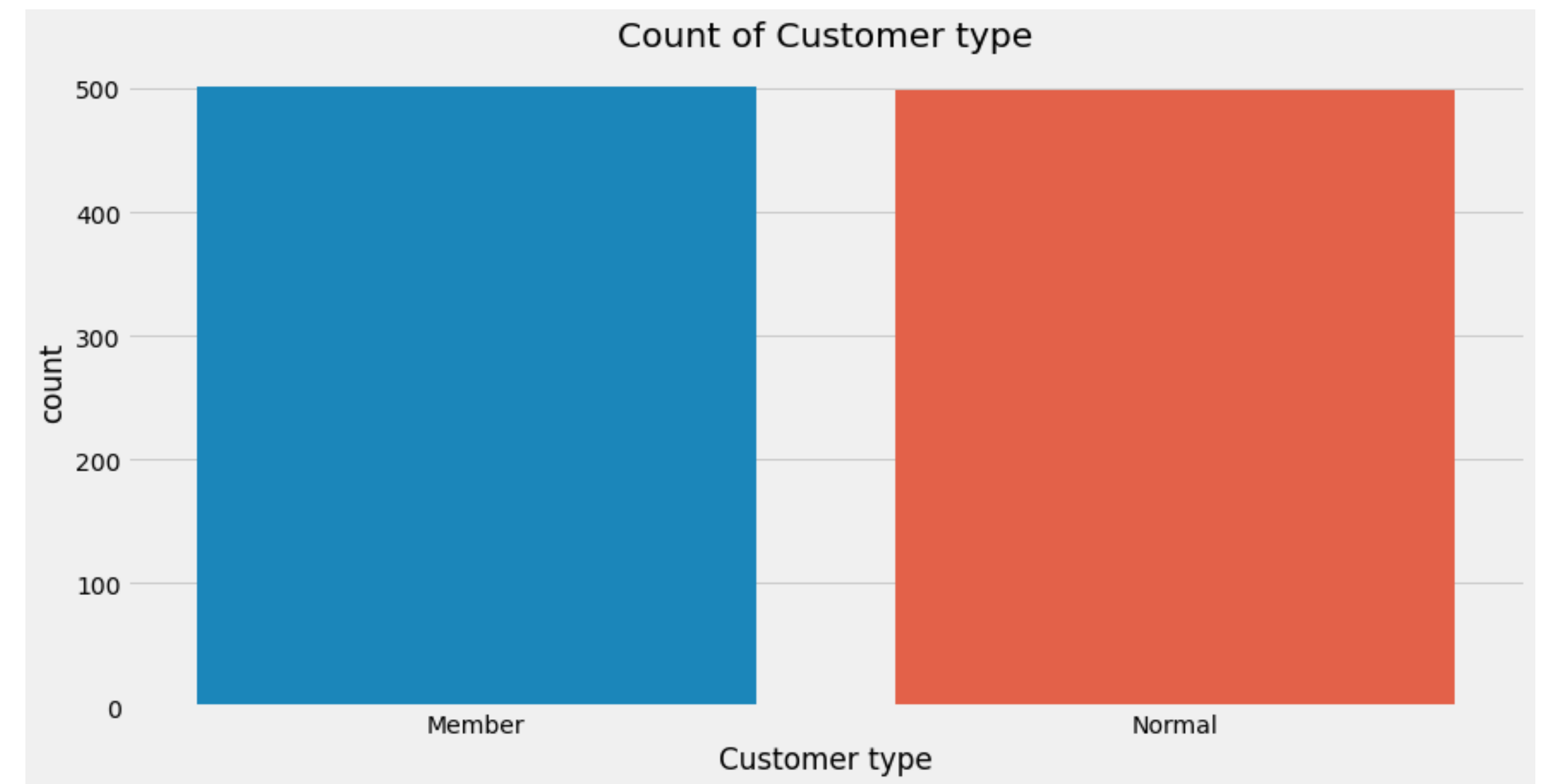- Branch A sees the most number of orders and owns the highest sales record
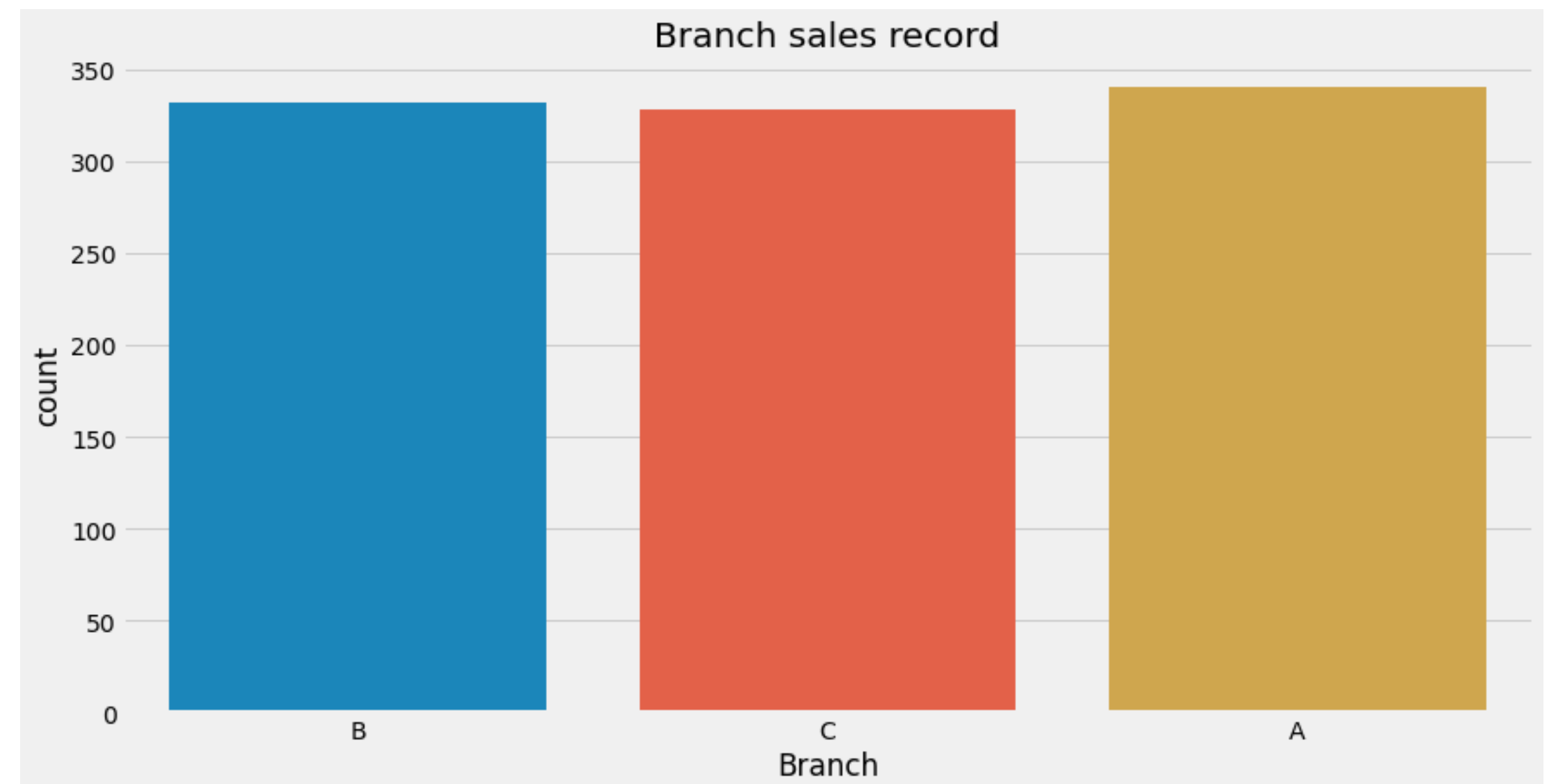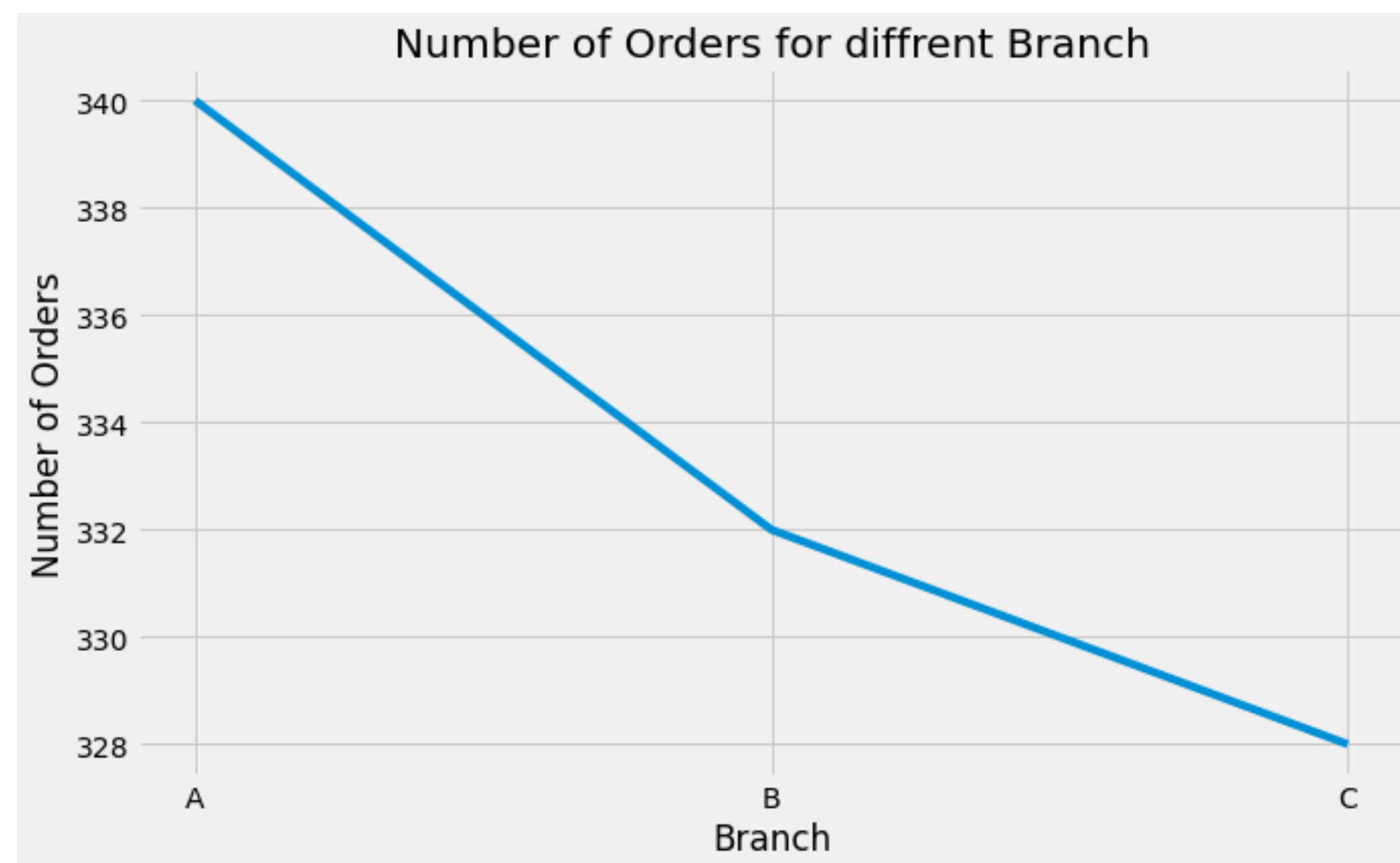
- Port Harcourt generates a gross income greater than that of Abuja and Lagos
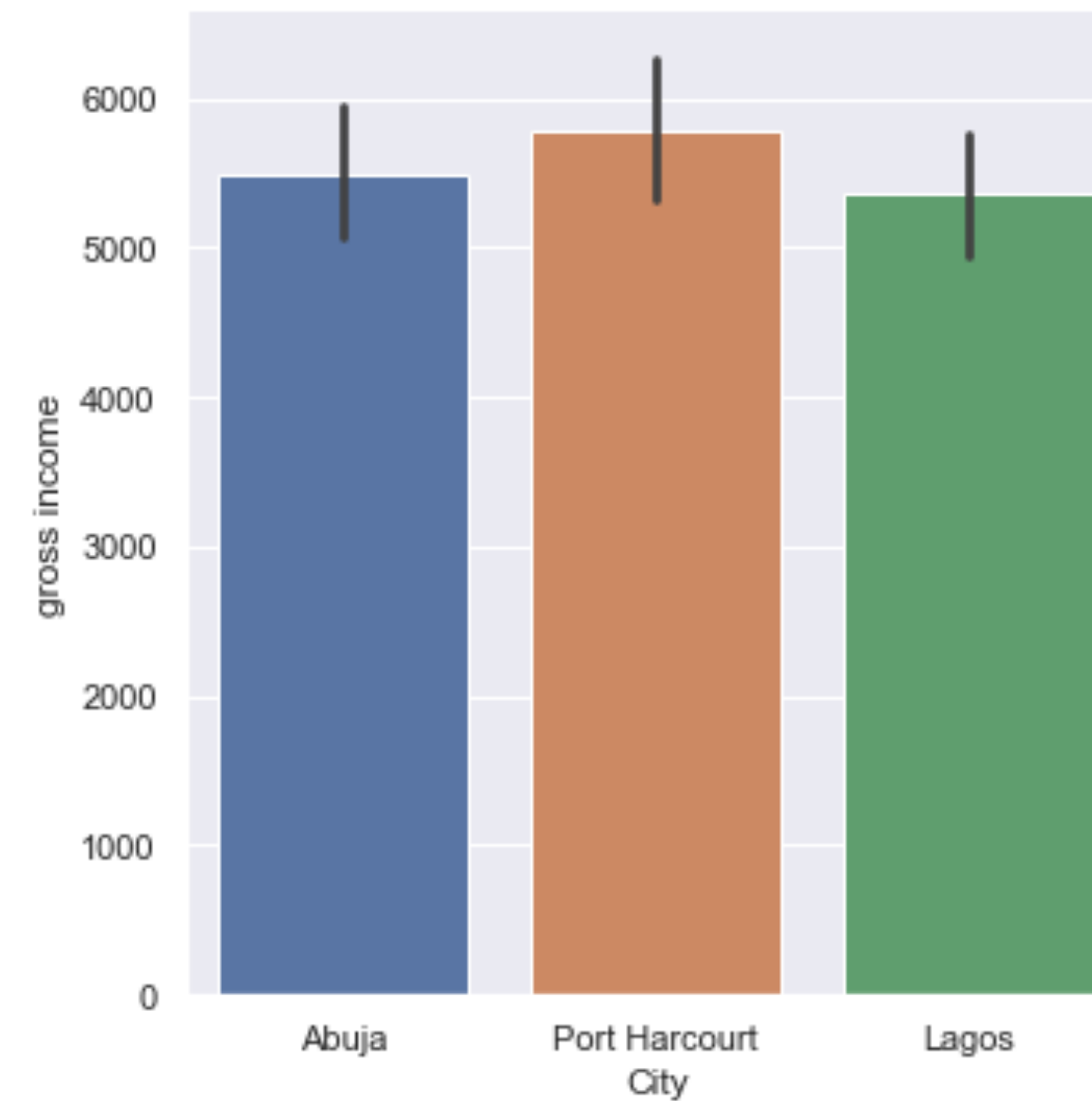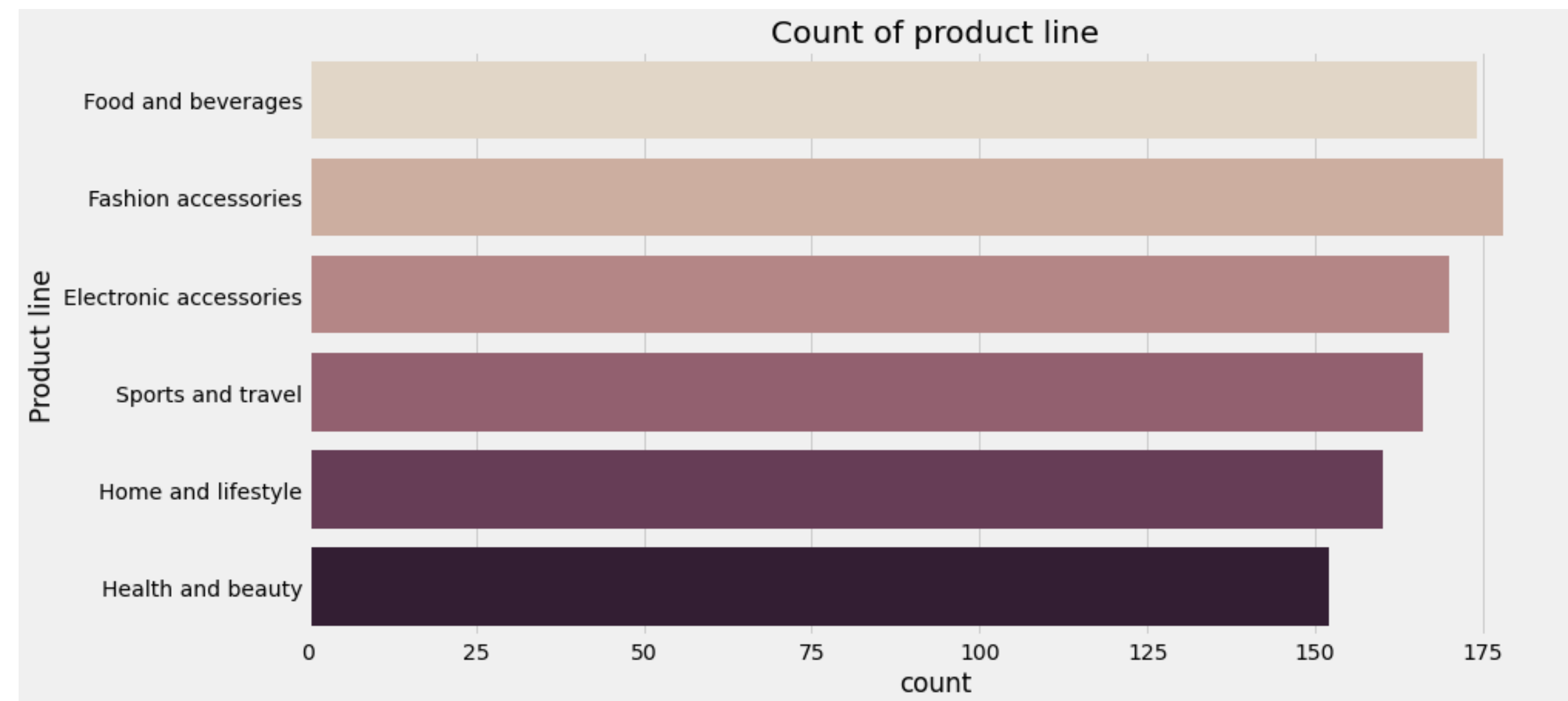

- Epay is the most used form of payment transaction

- There exist little count difference between the different customer type
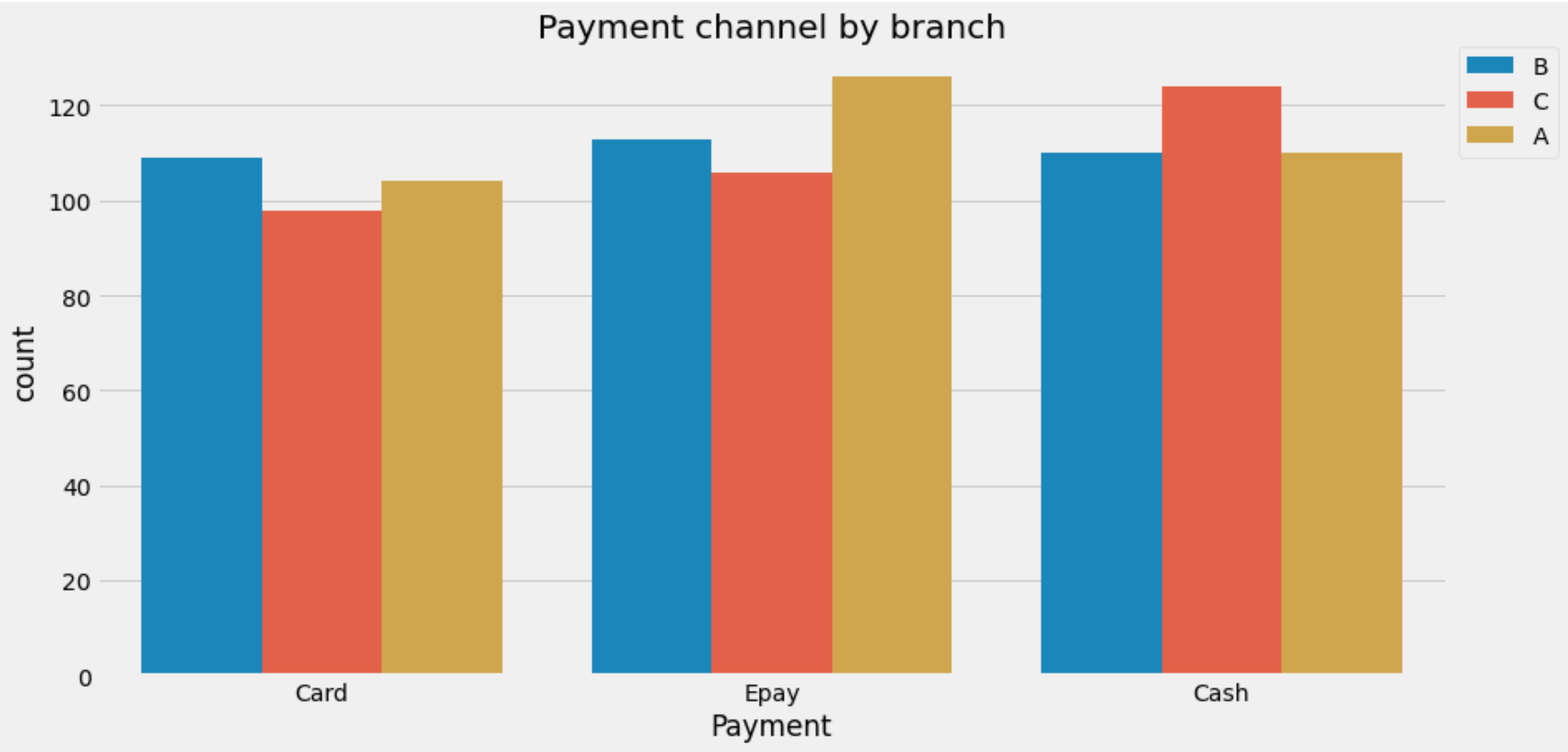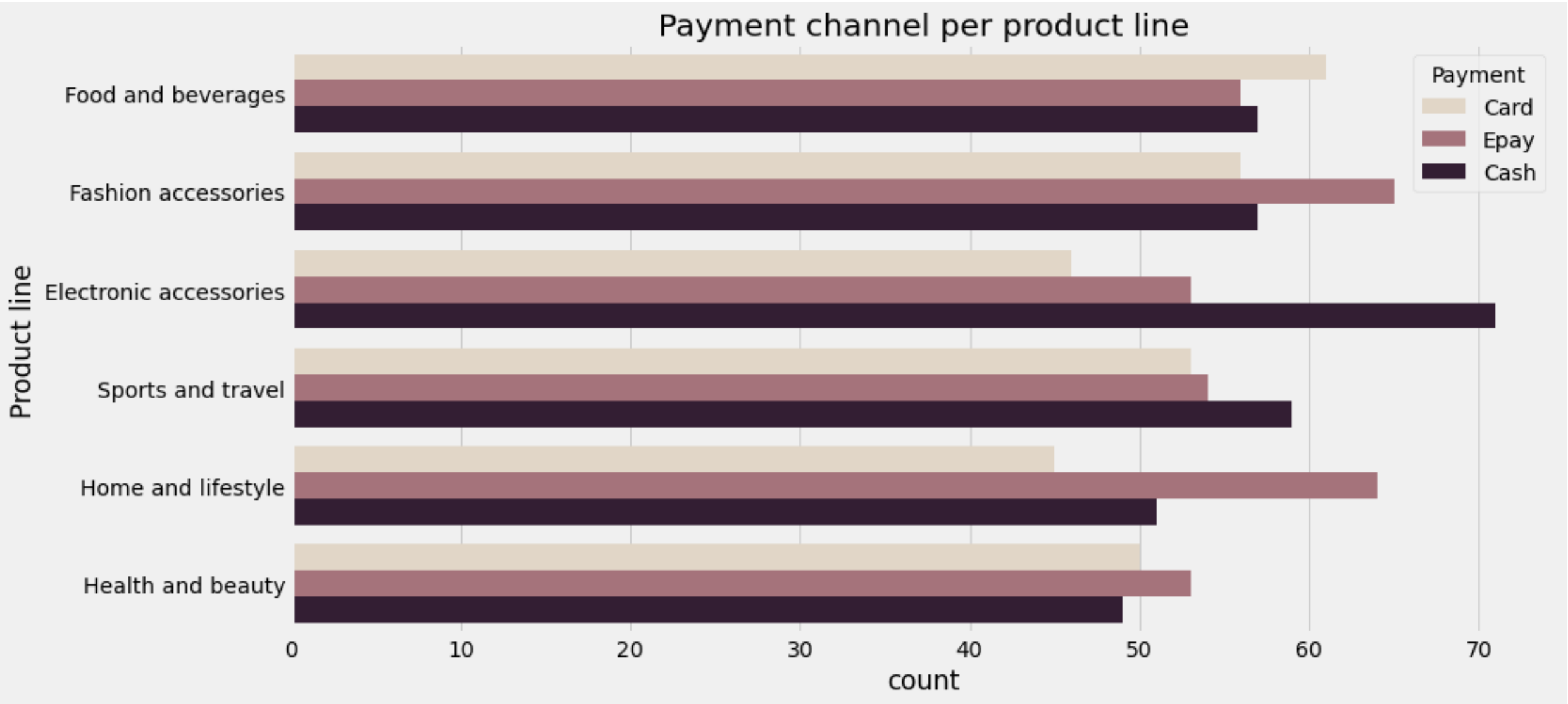

- Fashion accesories is the highest sold Product line, followed by Food and beverages while Health and beauty is the least
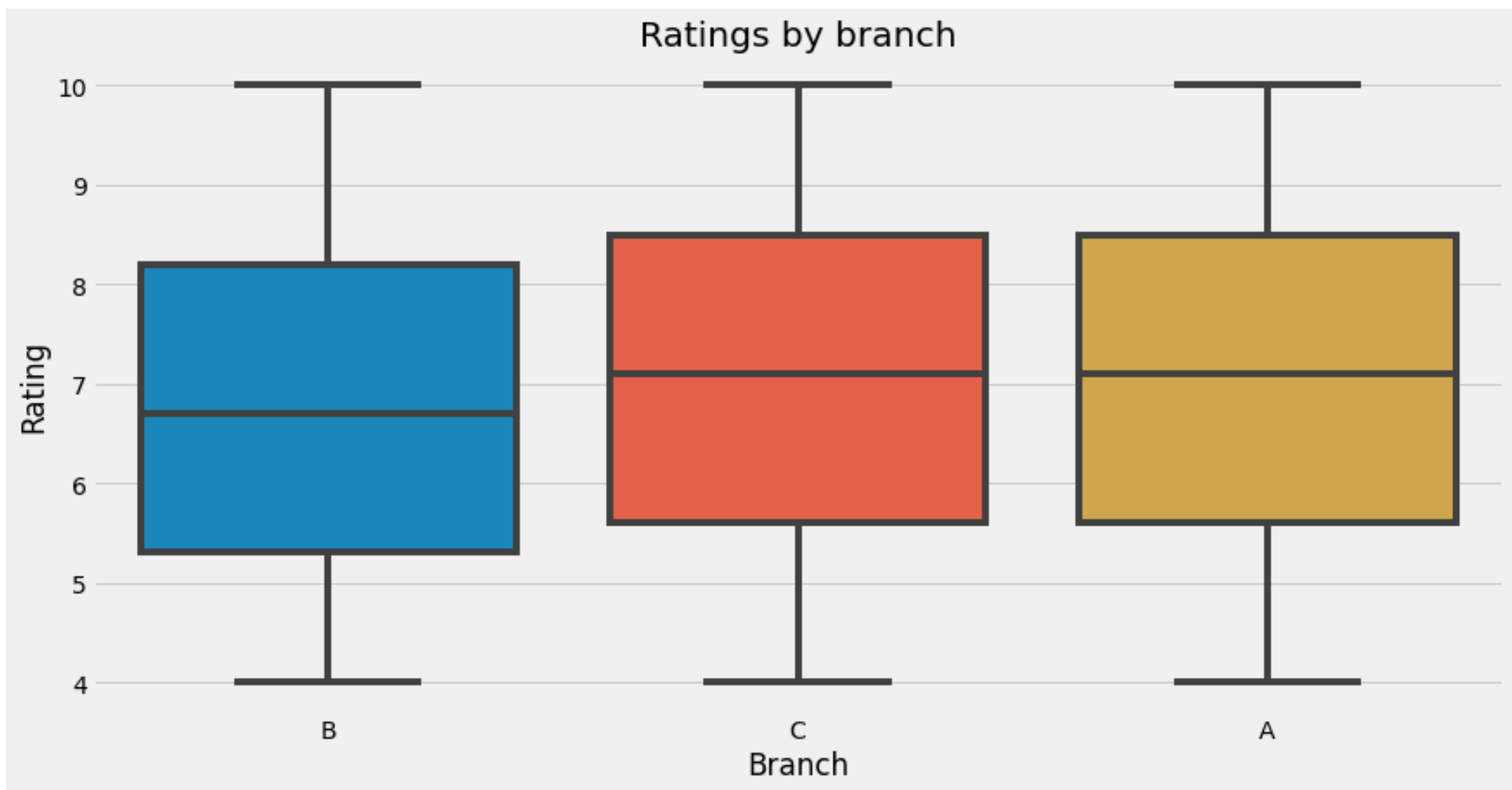
- Electronic accessories are mostly paid in cash with over 70 in count than other product line

- In branch C, the most common mode of payment is in cash while branch A and B is the Epay
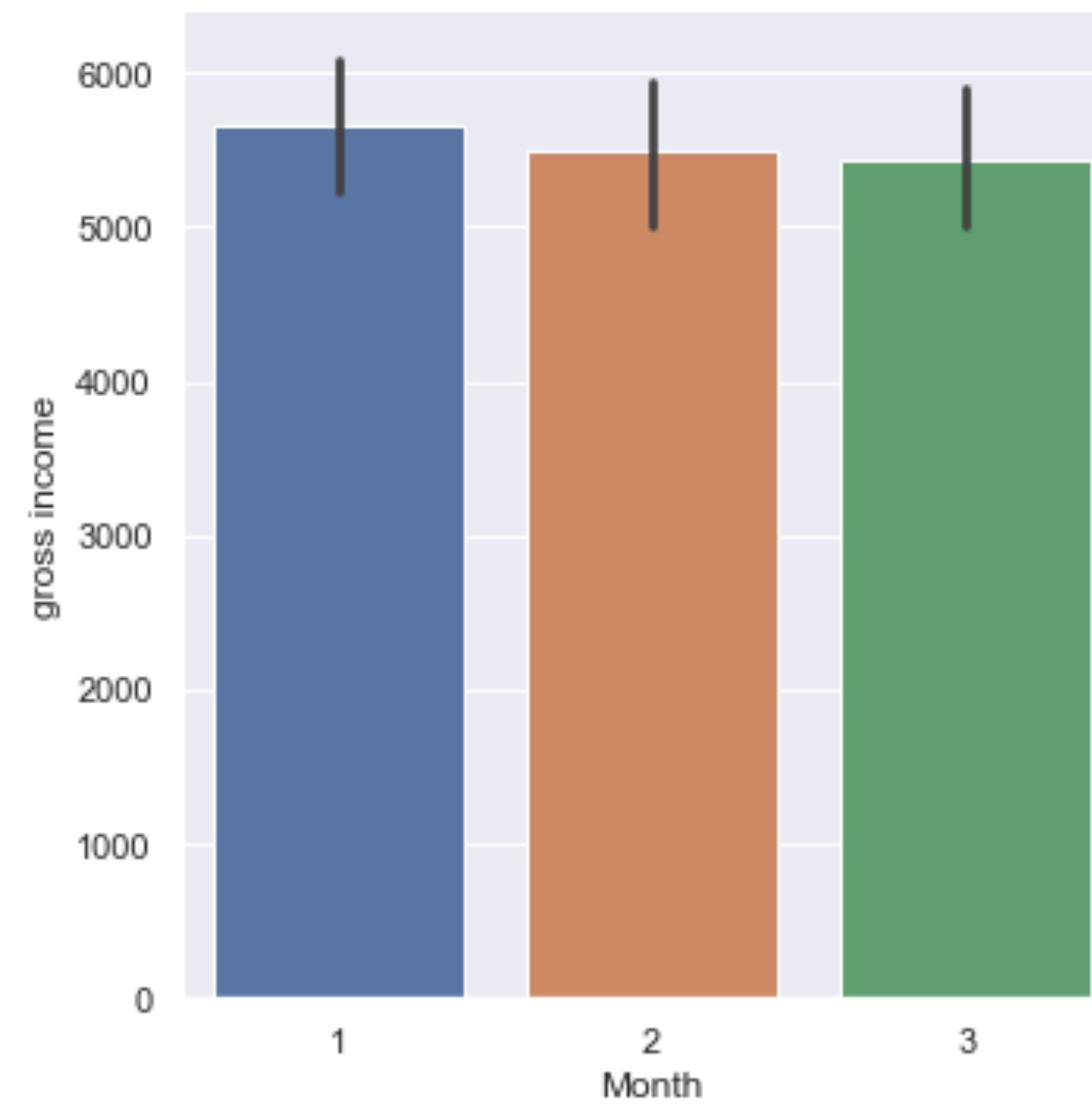
• The branch with the lowest rating is B

Ratings by branch

• The least number of product purchased by a customer is below 5.25 which is from the fashion accessories line while the highest quantity is above 5.5 from the elecronic accessories.
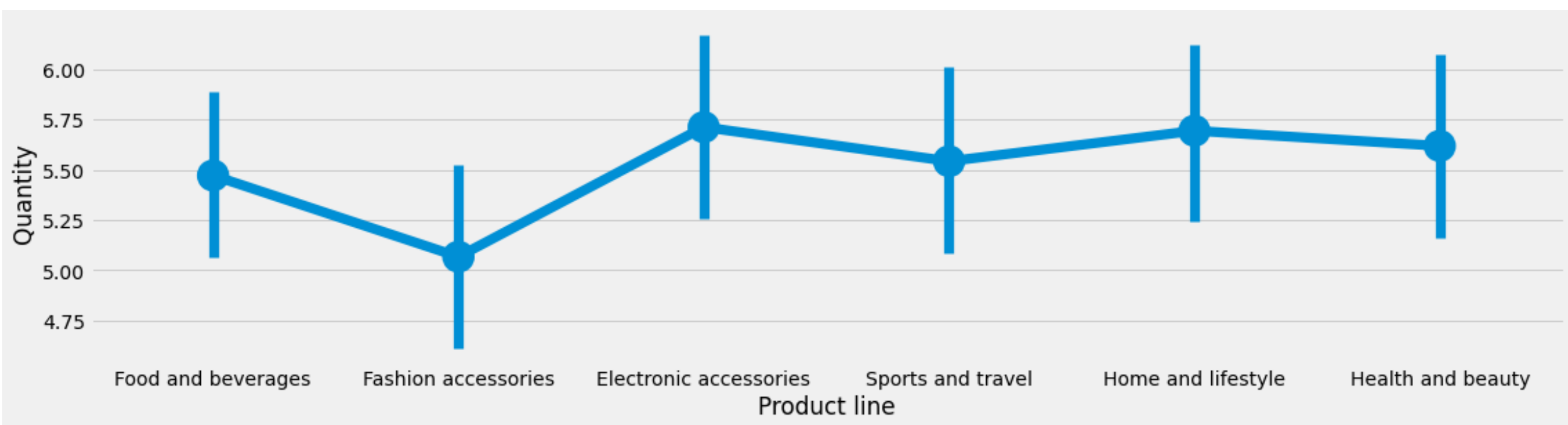
•Month with the highest gross income across the branches for the 3 months is January

•Number of products purchased by customer(by gender) per day
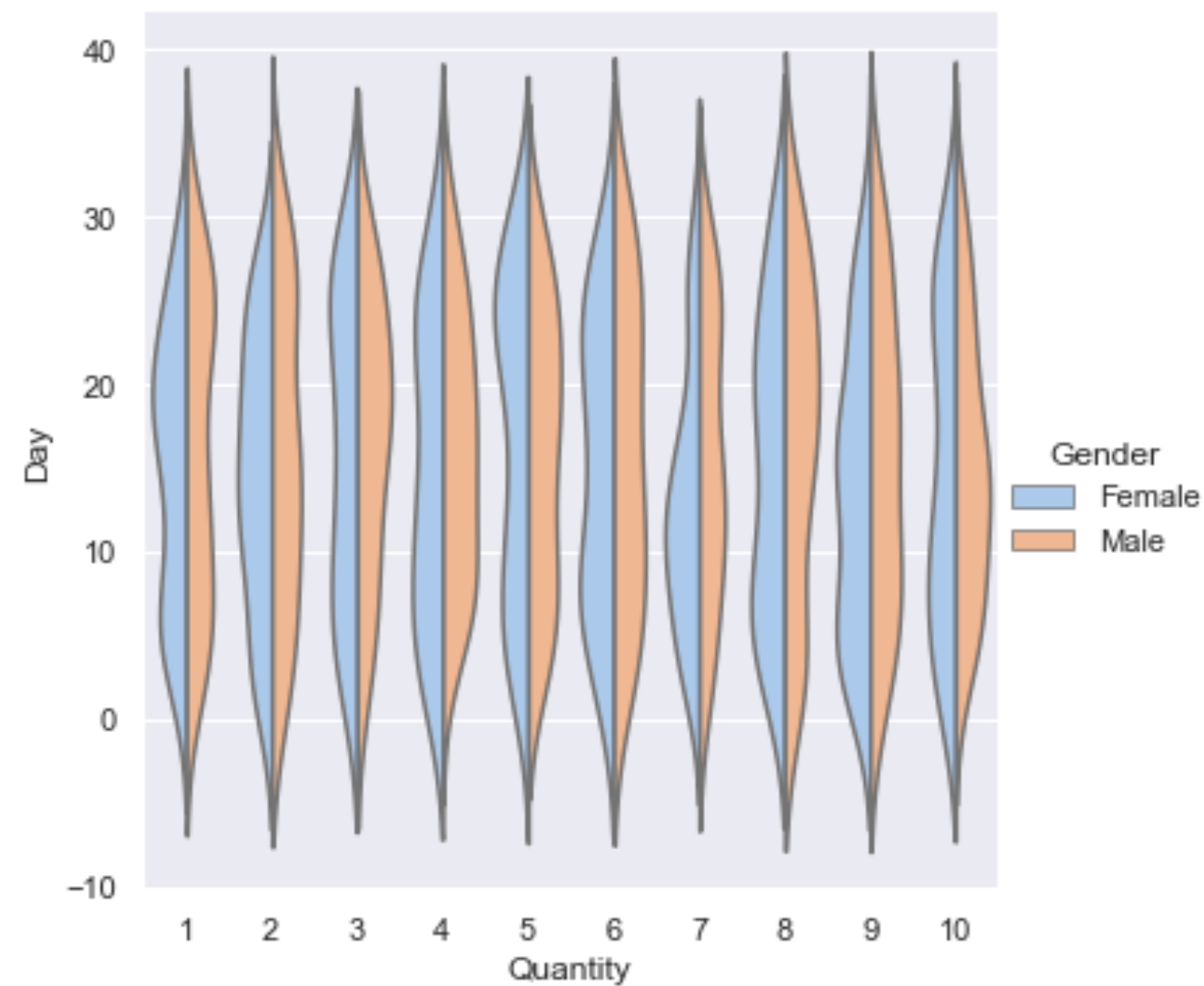
Recommendations and Conclusion

- The previous month's gross income seems to do better than subsequents

- Port harcourt has the least sales record and branches but the highest gross income. Having more branches in this city would be a good idea.

- Fashion accessories, food and beverages product should be stocked more as they are customers' most purchased.

- The lowest customer rating by a branch is from Abuja, which also has the least gross income, meaning there are more unsatisfied customers from this branch and the customer relations should be looked into.

Thank You.