

# Supermarket Investigation Report

ID: 200115

## I. Background

### 1. Context:

In next month, the company has amount of money to invest to regional supermarket. There are three supermarkets in the region, the company wants to investigate the operation of each supermarket. This report uses dataset historical sales of three supermarkets for 3 months to get insight.

### 2. Data

**Source:** <https://www.kaggle.com/datasets/aungpyaeap/supermarket-sales>

The data has 1000 rows and 17 columns and has now null values. Each row contains the information of one transaction. 17 columns contain:

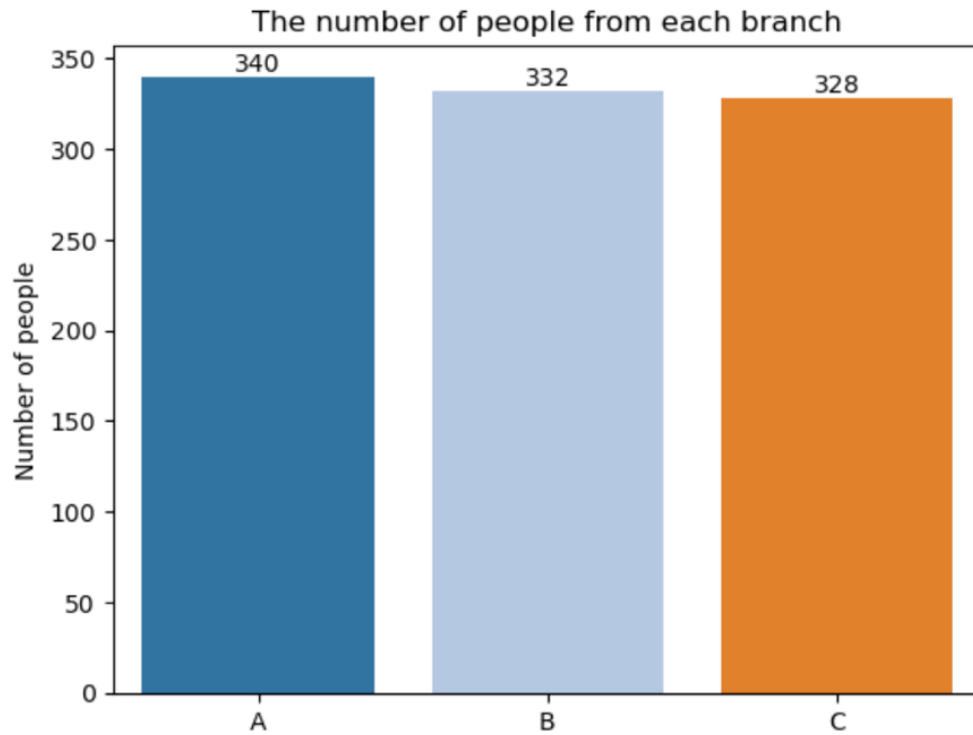
- **Invoice id:** invoice identification number when buy products from supermarket.
- **Branch:** Branch of supermarket.
- **City:** Location of supermarket.
- **Customer type:** member or normal customer. Member is person who register and have member card. Normal customer is person who do not have member card.
- **Gender:** male or female.
- **Product line:** the general categorization of items. There are six general types: Electronic accessories, Fashion accessories, Food and beverages, Health and beauty, Home and lifestyle, Sports and travel.
- **Unit price:** price of each product in dollar (\$).
- **Quantity:** the number of produce that customer buy.
- **Tax:** 5% tax fee according to the Tax law.
- **Total:** the total price including tax that customer had pay.
- **Date:** the date printing invoice.
- **Time:** purchased time (hour and minutes)
- **Payment:** the methods that customers used. Three types of methods: Cash, Credit card, and Ewallet.
- **Cost of goods sold:** cost of goods sold, excluding taxes.
- **Gross margin percentage:** the gross profit in percentage. It shows the profits after subtracting the cost of goods sold.
- **Gross income:** an individual's total earnings before taxes.
- **Rating:** it indicates the customer satisfaction rating on the overall experience in a supermarket. It is rated on the scale of 1 to 10, which 10 is good experience and 1 is bad experience.

## II. Investigation

**1. Clarification:** There is one supermarket in each region, so the branch represents the name of supermarket in a particular region.

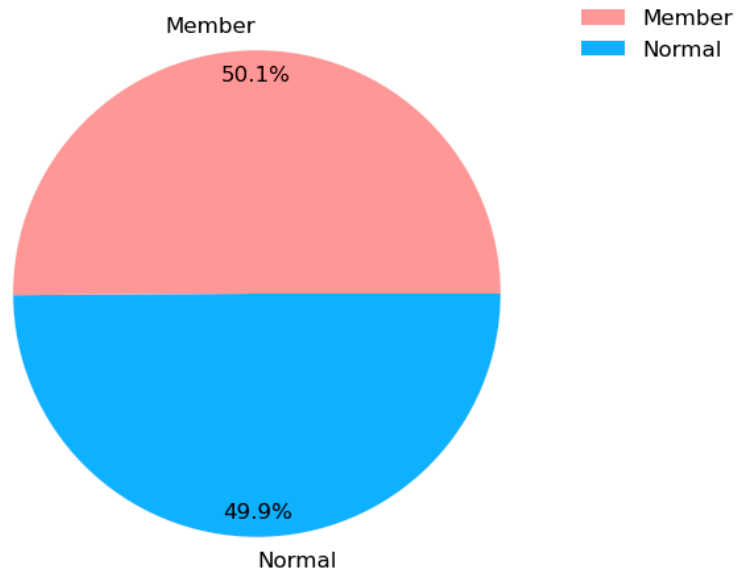
- Branch A represents the supermarket in Yangon.
- Branch B represents the supermarket in Naypyitaw.
- Branch C represent the supermarket in Mandalay.

## 2. Analyzing data

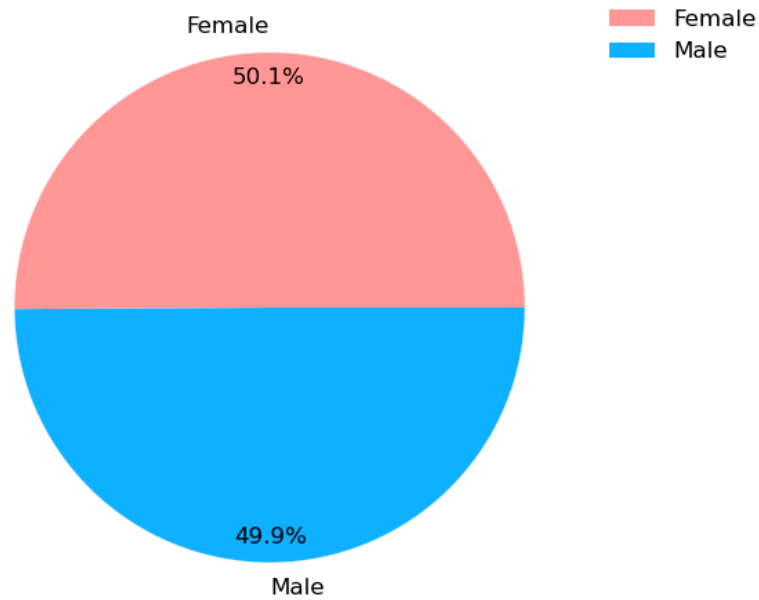


- In each branch, there is not big difference in number of people purchasing.

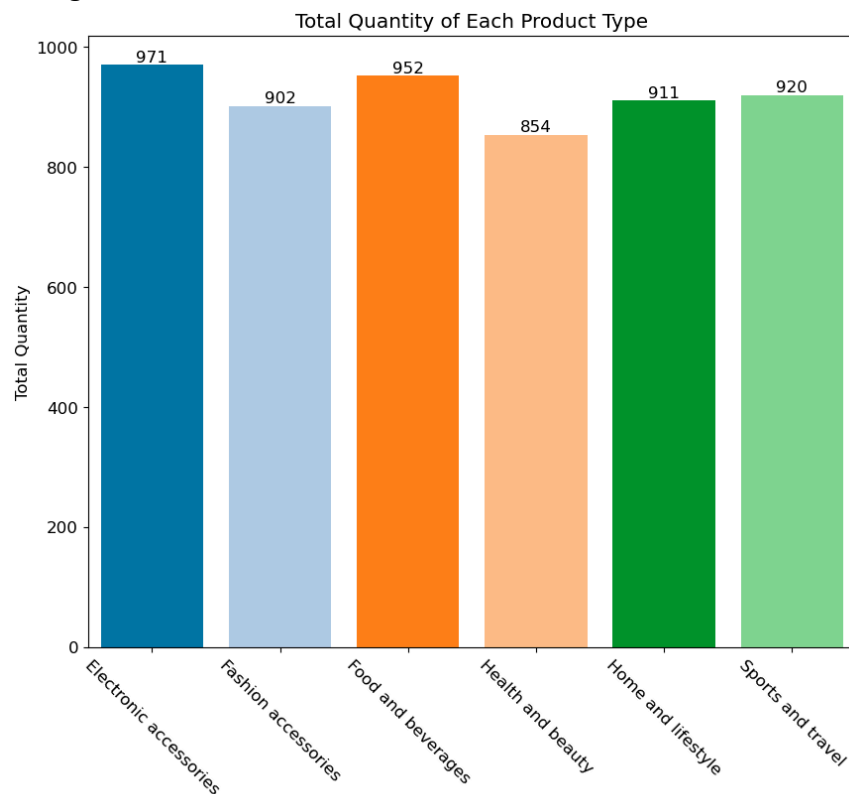
The component of customer type



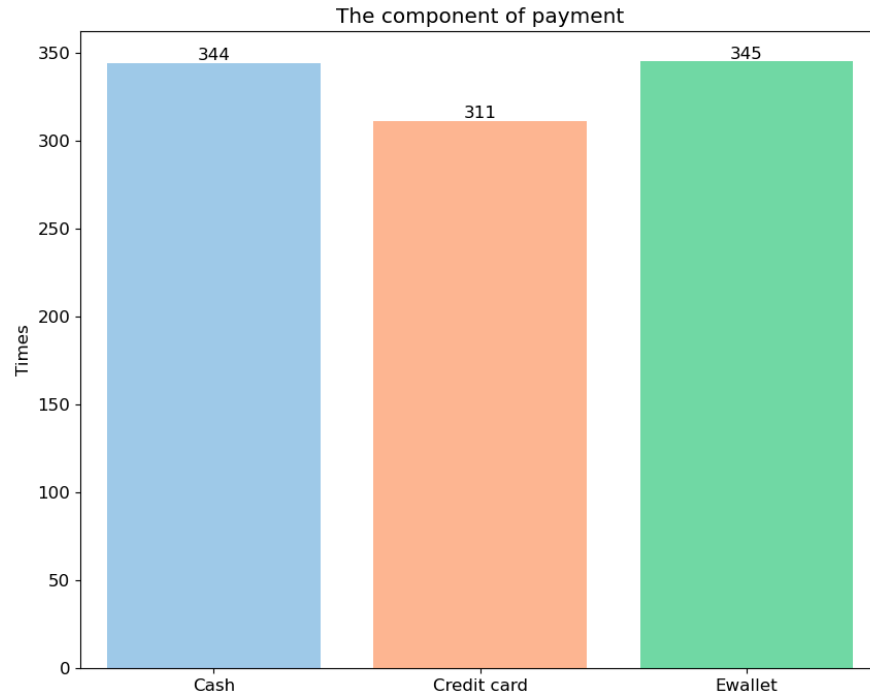
- The member of supermarket consists of 50.1% members and 49.9% of normal customer.



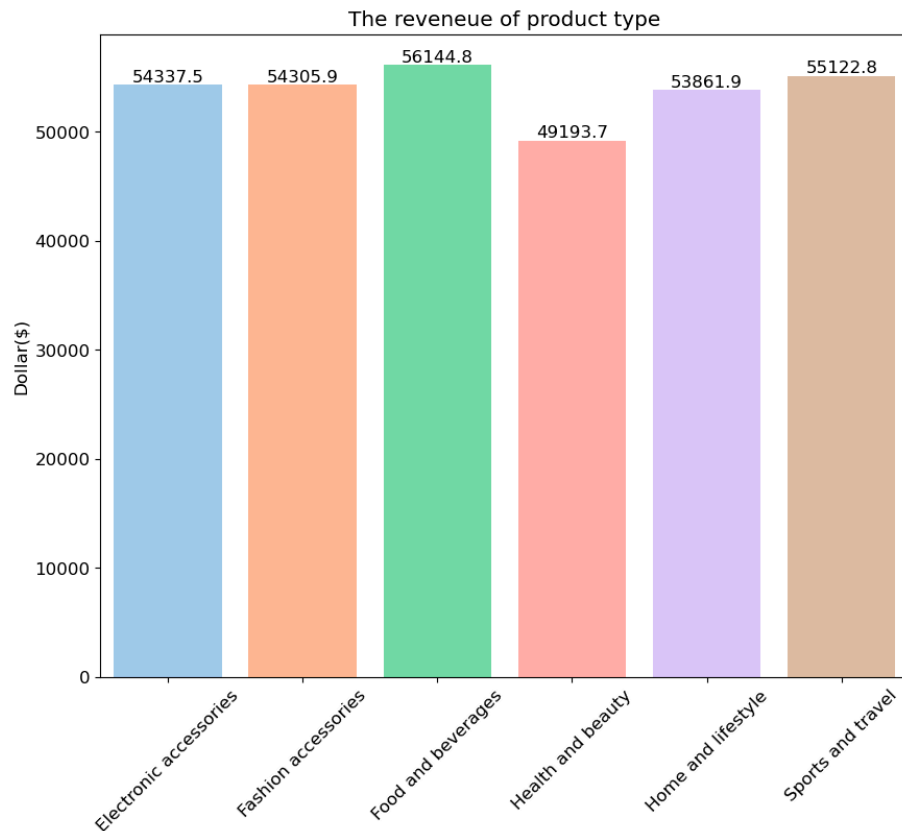
- Male and female purchasing in three supermarkets consist of approximately similar percentage in all customers.



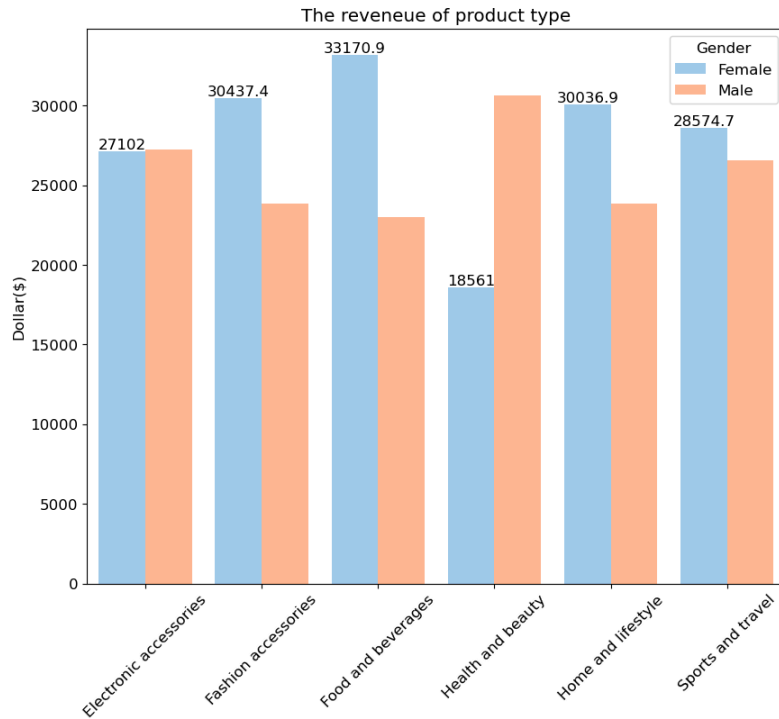
- In all of product type that customer purchase, customer purchase Electronic accessories most with 971 products, the second is Food and beverages product. The Health and beauty is the least in this list.



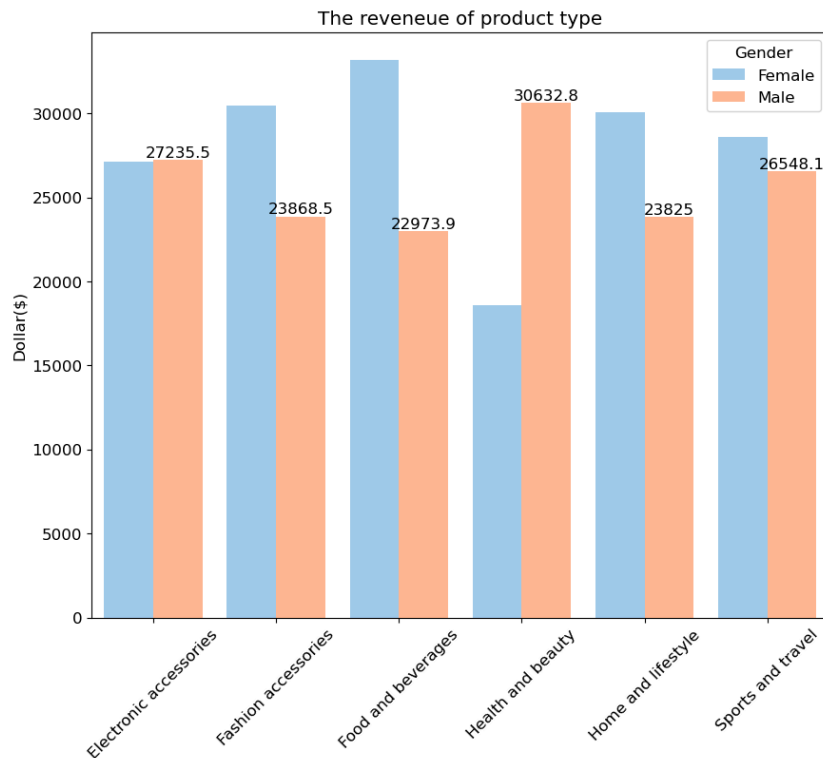
- In term of payment method, there are three methods, which are Cash, Credit card and Ewallet. Most people use Ewallet and Cash, but there is no big difference between two of them.



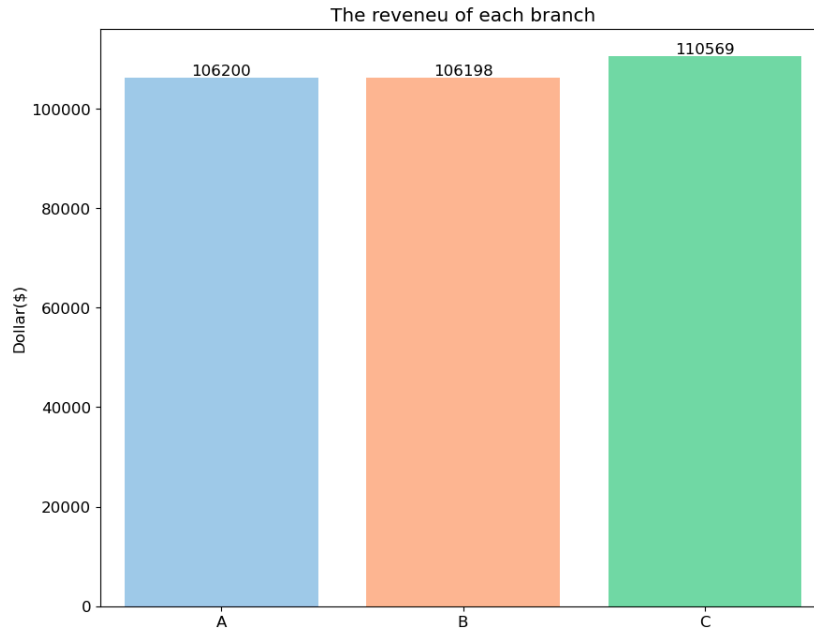
- In term of product type, Food and beverages is the most revenue product.



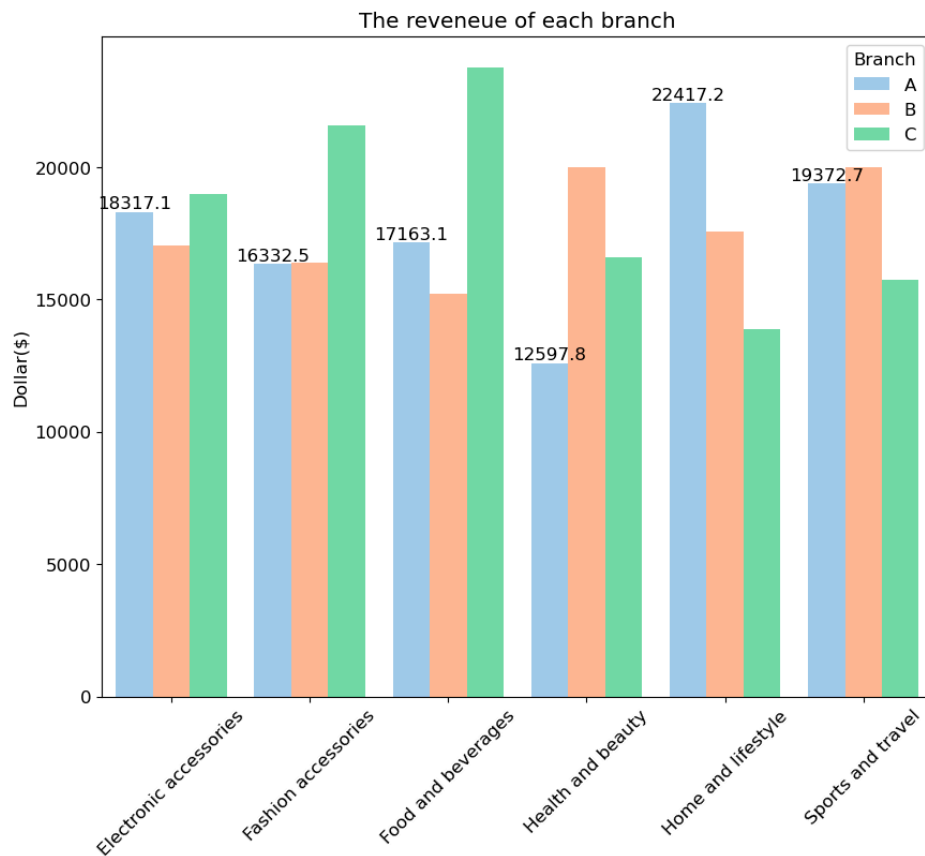
- Consider more deeper, female spend money more than male in Fashion accessories, Food and beverages, Home and lifestyle. Moreover, female spends most money on Food and beverages.



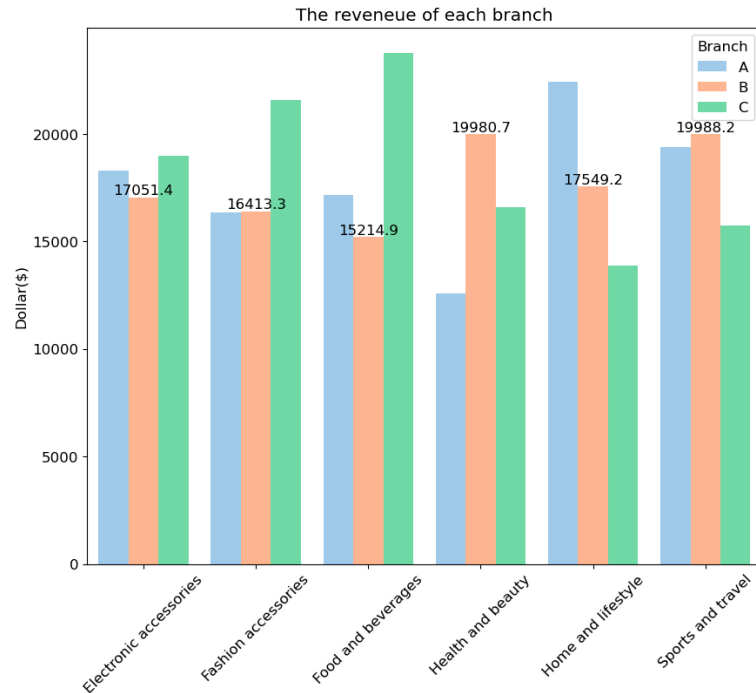
- Male purchases more than female in Electronic accessories and Health and beauty. Male spends most money in Health and beauty.



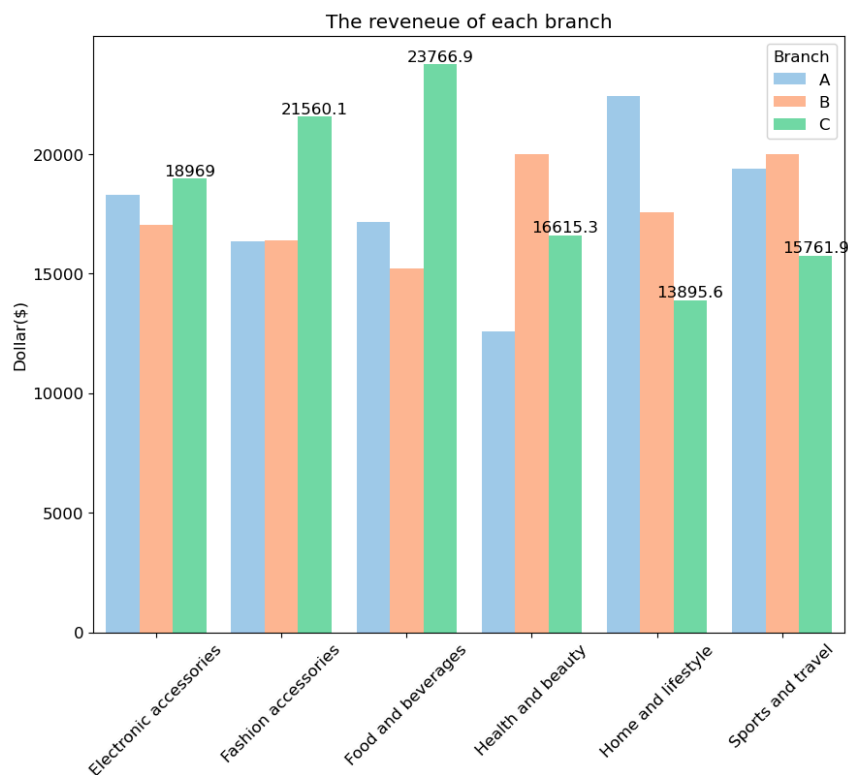
- Revenue is the money that branch make including tax. In this data, revenue is the “total” column. The above graph shows that the branch C make most money.



- The branch A sells most product – Home and lifestyle than two other branches and the Home and lifestyle is the product that make most revenue of branch A’s product with 22417.2\$.



- The branch B sells more Sports and travel product; Health and beauty product than two other branches. The Sports and travel product is the product that make the most revenue with 19988.2\$.



- The branch C sells more Electronic accessories, Fashion accessories, and Food and beverages product than other two branches. The Food and beverages product is the most revenue product with 23766.9\$.

