



Project Data Analyst: Shopping Trends Customer Segmentation

Overview

This project analyzes customer shopping of XY (note: XY is not a real name) using customer segmentation such as frequency and monetary score, customer segmentation: demographic and customer segmentation: behavioral.

Problem Statement

XY is a fashion retail company facing challenges in understanding customer shopping patterns and optimizing marketing strategies to increase revenue and customer retention. Currently, marketing strategies are carried out generally without clear segmentation.

Objective

The purpose of this analysis is to group customers based on their shopping behavior using the Customer Segmentation approaches with the aim that companies can understand customer shopping patterns accurately.

Dataset

- Collected from [kaggle](#)
- 3900 entries
- Missing value: 0
- Duplicated: 0

Dataset

- 19 feature / columns (5 numerical and 14 categorical)

Numerical	Categorical
<ul style="list-style-type: none">• Customer ID• Age• Purchase Amount (USD)• Review Rating• Previous Purchases	<ul style="list-style-type: none">• Gender• Item Purchased• Category• Location• Size• Color• Season• Subscription Status• Payment Method• Shipping Type• Discount Applied• Promo Code Used• Preferred Payment Method• Frequency of Purchases

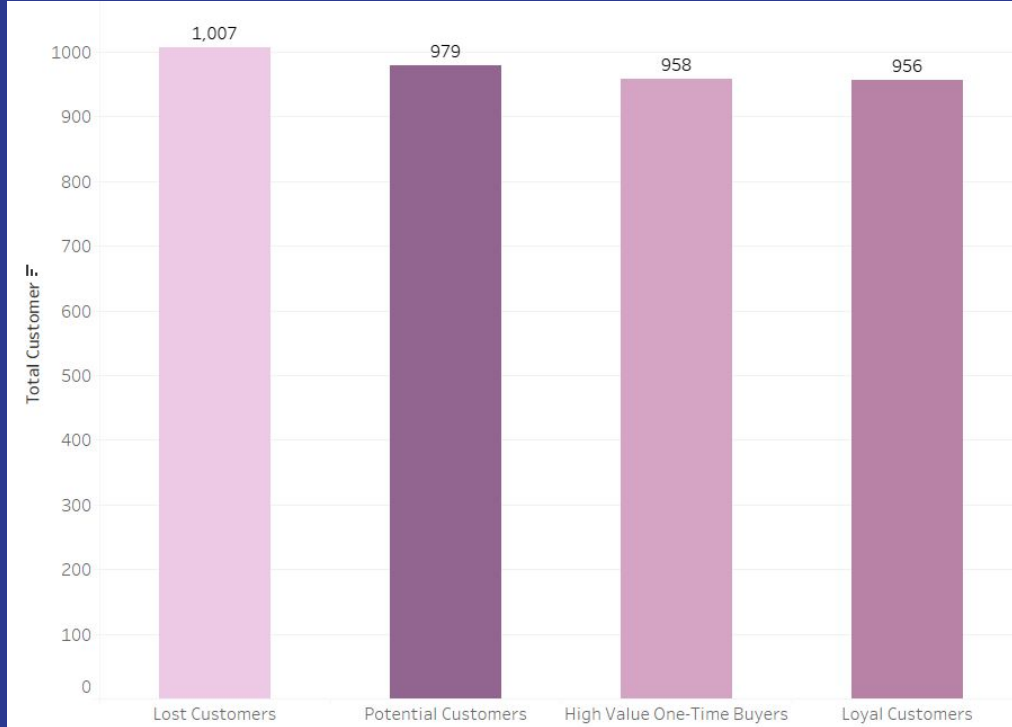
Customer Segmentation

- Frequency and Monetary score

	0 - Q1	Q1 - Q2	Q2 - Q3	Q3 - Q4
Score	1	2	3	4

F and M score	F: ≥ 3 and M: ≥ 3	F: ≥ 3 and M: < 3	F: < 3 and M: ≥ 3	F: < 3 and M: < 3
Segmentation	Loyal Customer	Potential Customer	High Value One-Time Buyers	Lost Customer

Customer Segmentation



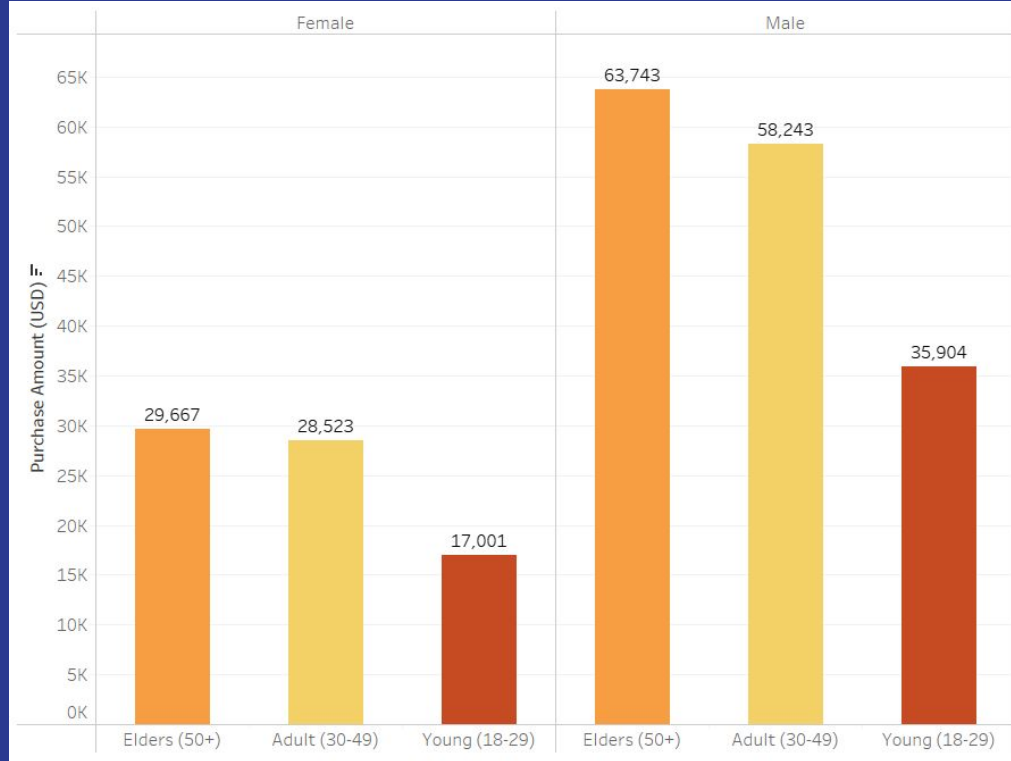
- There are more customers in the Lost Customers segment than in other segments.
- Customers in the Loyal Customers segment are the fewest.
- The Potential Customers segment is the second largest, behind Lost Customers.
- There are more customers in the High Value One-Time Buyers segment than in the Loyal Customers segment.

Customer Segmentation: Demographic

Age group and Gender

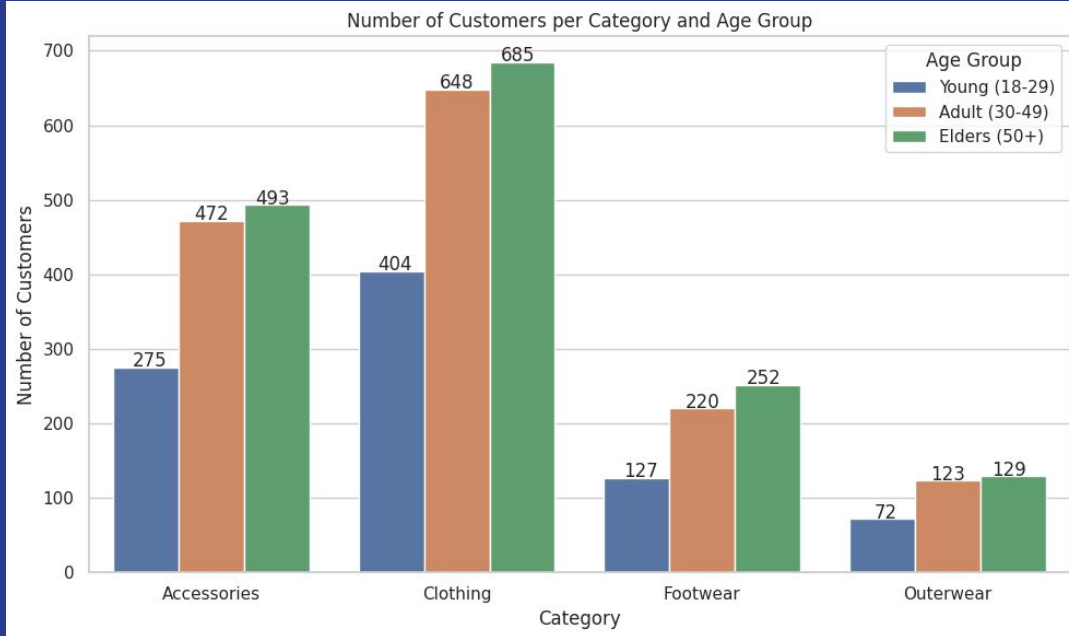
Age Group	Young	Adult	Elders
Age	18 - 29	30 - 49	50+

Customer Segmentation: Demographic



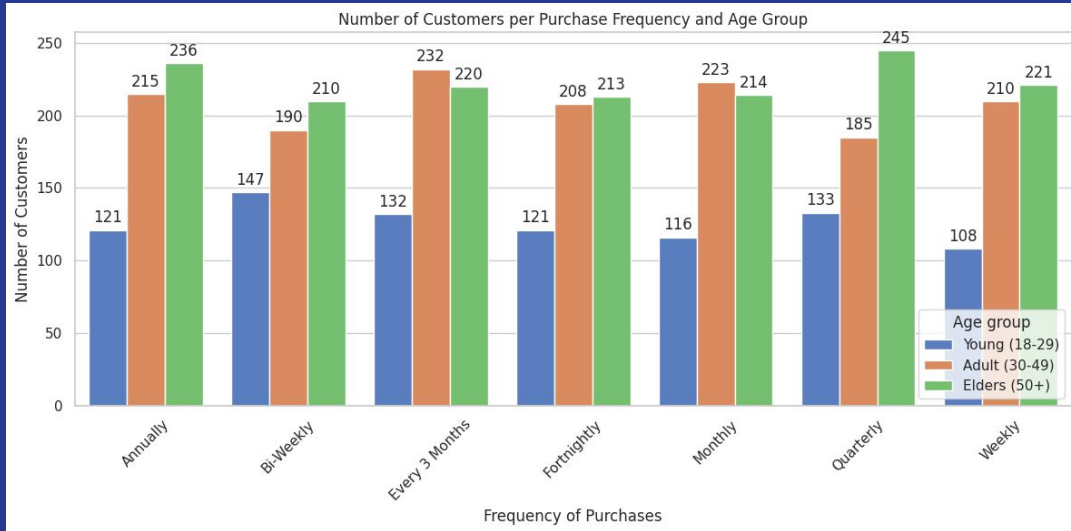
- Man purchase more than woman. Overall man purchase almost twice woman
- Elders (50+) man purchase the most.
- Young (18-29) woman purchase the least.
- The older the age group, the more the spent on products.

Customer Segmentation: Demographic - Age group by Category



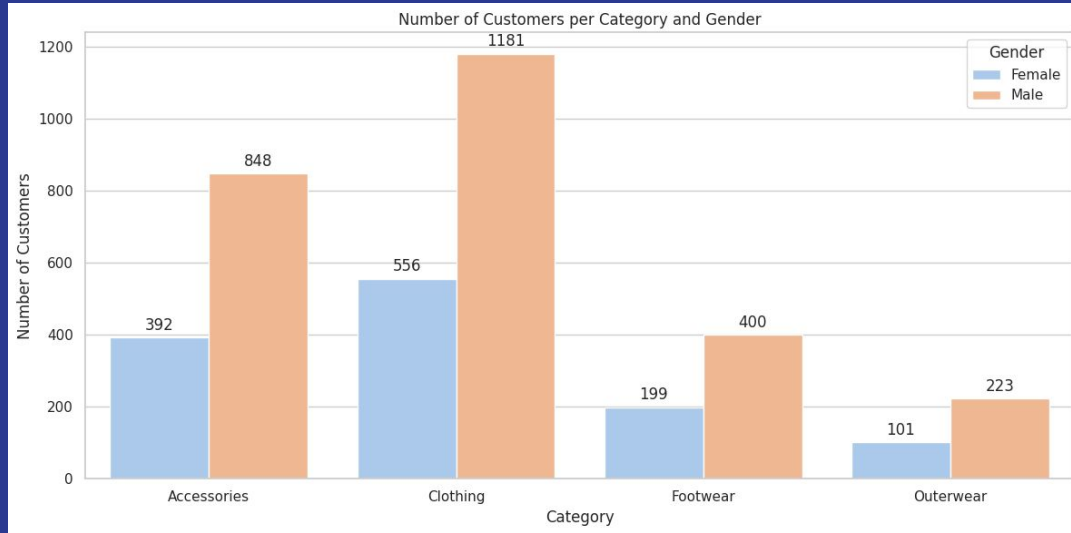
- The most customer in every category is age group elders.
- The least customer in every category is age group young.
- The most customer in every group in clothing.
- The least customer in every group in outerwear.

Customer Segmentation: Demographic - Age group by Frequency of Purchases



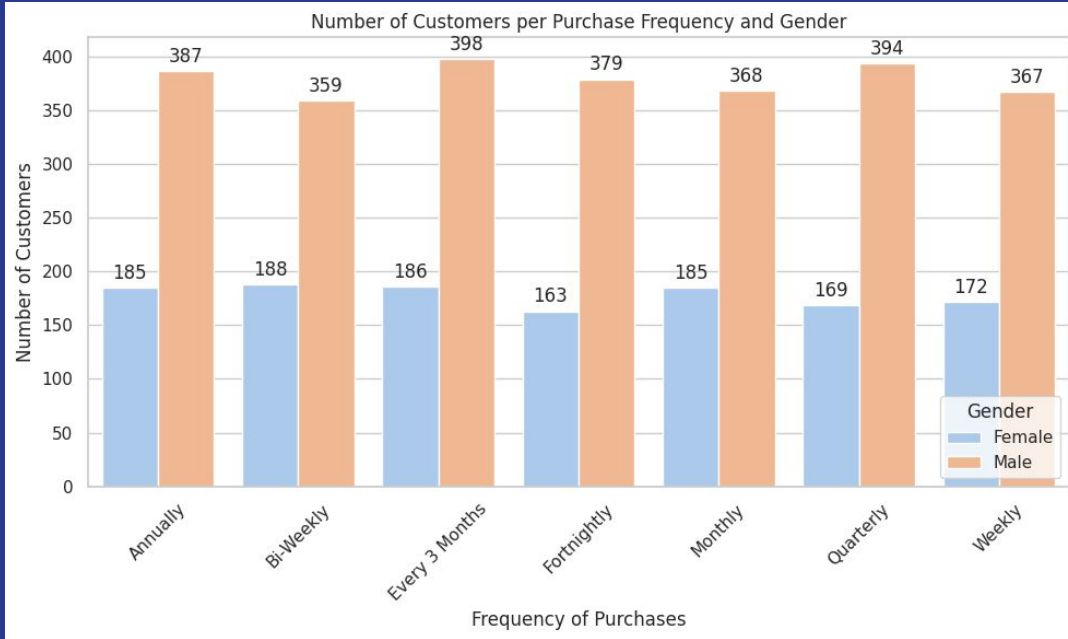
- Customer in group elders tends to purchase goods in quarterly.
- Customer in group young tends to purchase goods in bi-weekly.
- Customer in group adult tends to purchase goods in every 3 months.

Customer Segmentation: Demographic - Gender by Category



- The most customer in every category is male.
- The least customer in every category is female.
- The most customer in every group in clothing.
- The least customer in every group in outerwear.

Customer Segmentation: Demographic - Gender by Frequency of Purchases

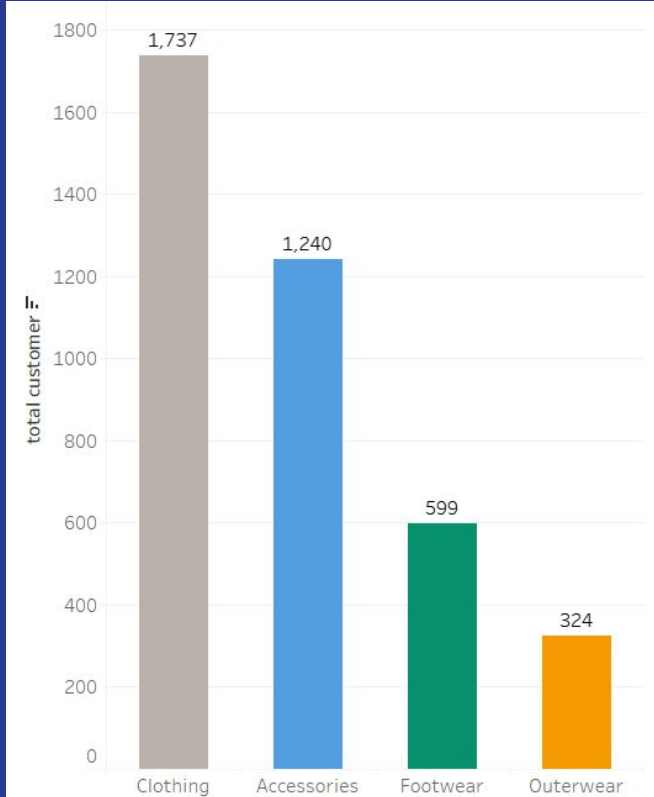


- Male customers tends to purchase goods in every 3 months.
- Female customers tends to purchase goods in bi-weekly.

Customer Segmentation: Behavioral

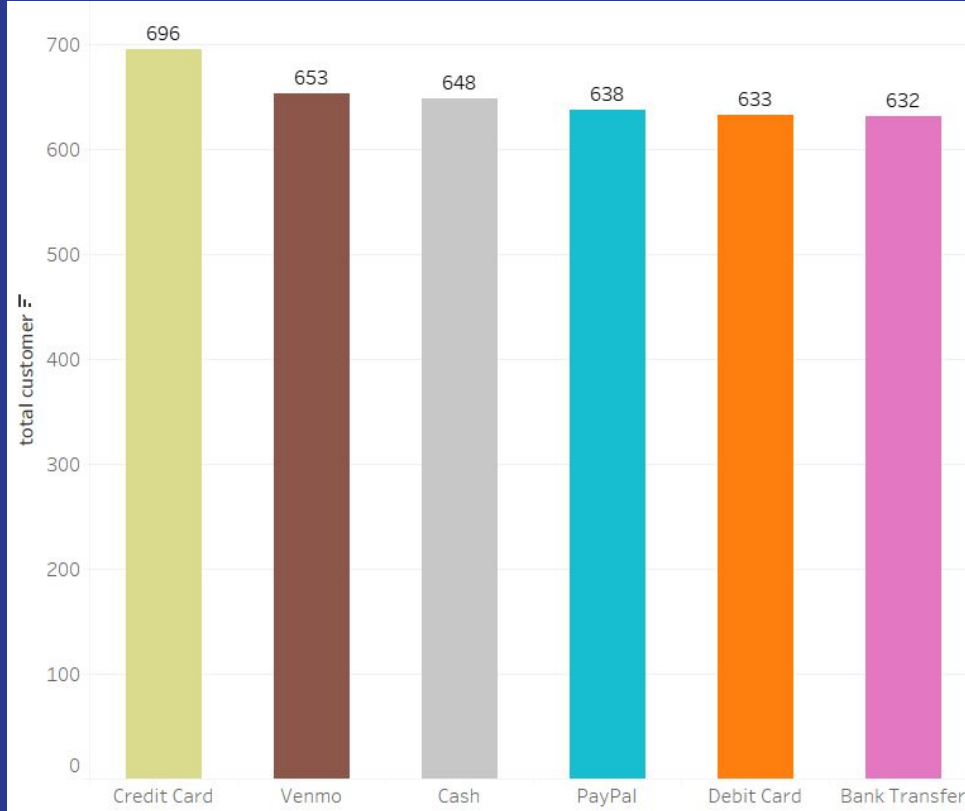
- Product category
- Payment methods
- Frequency of purchases
- Season
- Subscription based

Behavioral Segmentation: Product Category



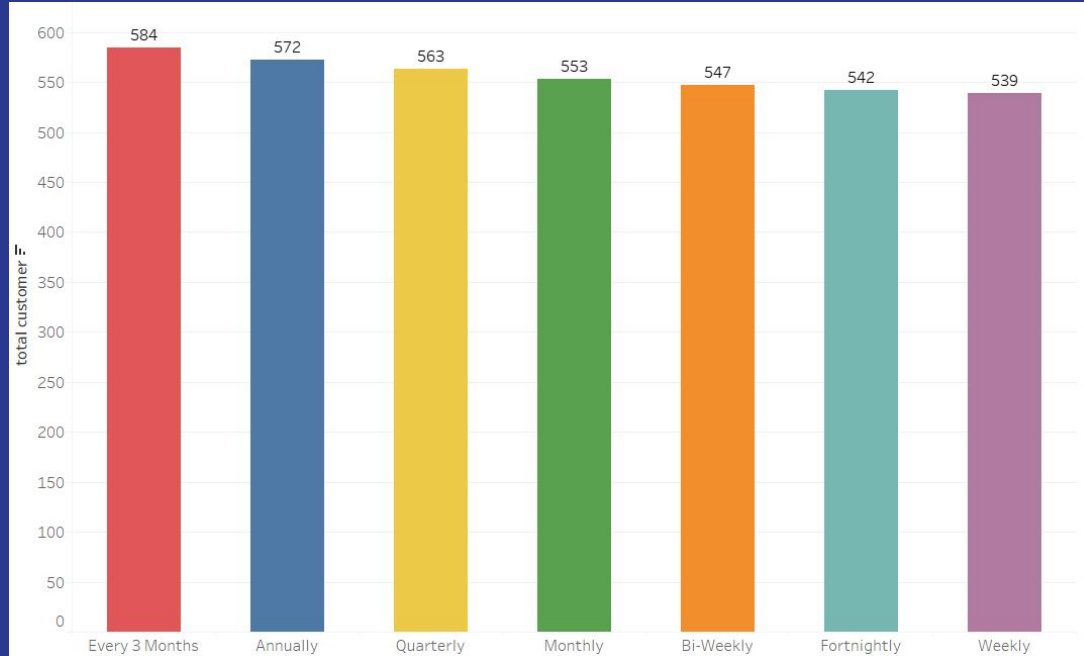
- Customer purchase the most on clothing.
- Customer purchase the least on outerwear.
- The number of customer who purchase on clothing is 5x more than purchase on outerwear.
- After clothing, accessories become the second the most purchased by customers, followed by footwear and outerwear on the least.

Behavioral Segmentation: Payment Methods



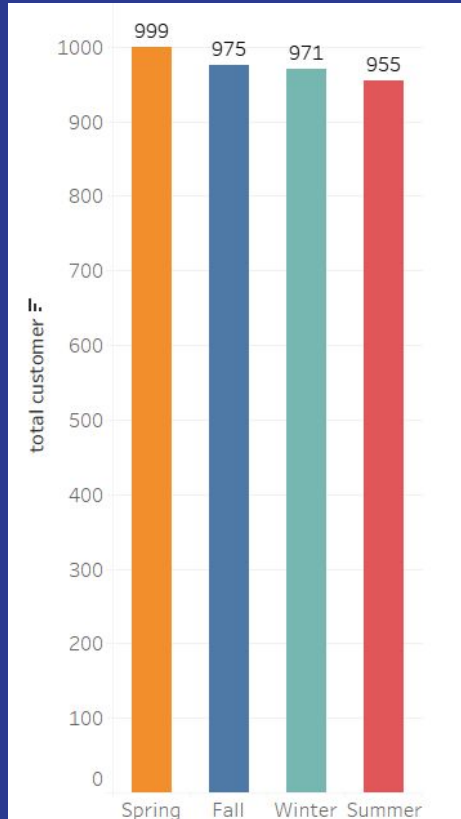
- Majority of customers use credit card.
- The least payment methods used is bank transfer.
- After credit card, customers use Venmo as the the payment methods, then cash, PayPal, debit card and the last bank transfer.
- The difference number of customers who use credit card and bank transfer is not huge. The difference is 64 customers

Behavioral Segmentation: Frequency of Purchases



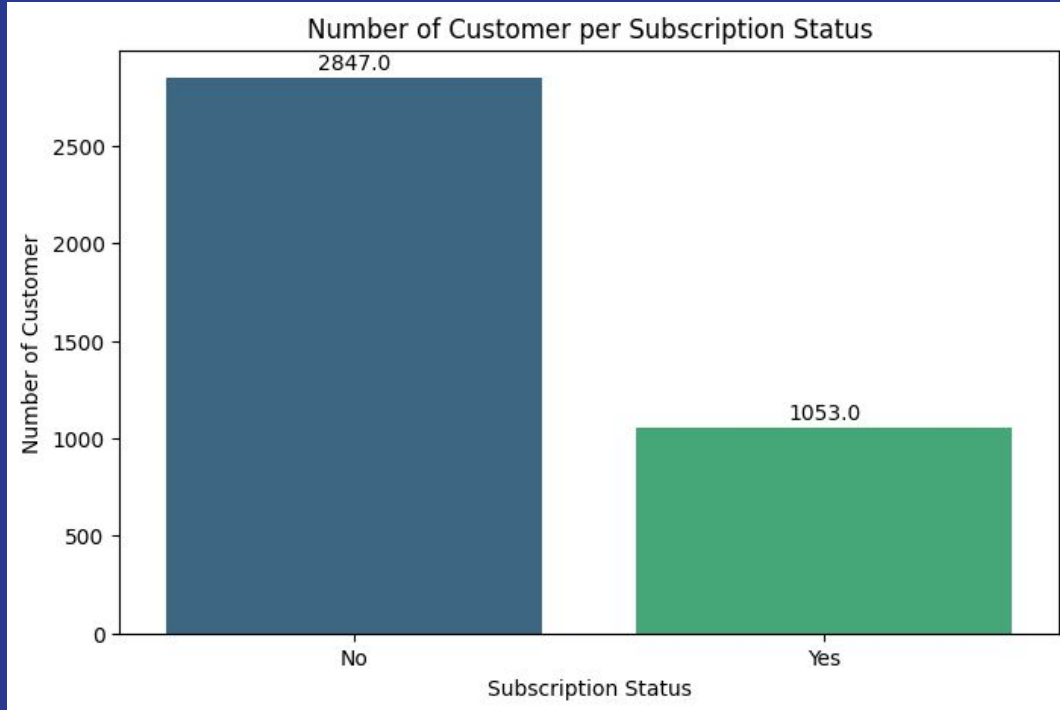
- Customers purchase items the most every 3 months.
- Customers purchase items the least on weekly.
- Customers prefer some time to make a new order after ordered the previous one.
- In order from the most to the least: every 3 months, annually, quarterly, monthly, bi-weekly, fortnightly and weekly.

Behavioral Segmentation: Season



- Majority of customers purchase items on Spring.
- Customers purchase items the least on Summer.
- In order from the most to the least: Spring, Fall, Winter and Summer.

Behavioral Segmentation: Subscription Based



- Most of customers are not subscribers.
- Non-subscribers customers are twice as much as subscribers customers

Recommendation

- + Customer segmentation
 - Provide exclusive promotion to attract customer back and reduce number customer on Lost Customers
 - Encourage upselling and cross-selling to increase their transaction value to convert Potential Customers to Loyal Customers.
- + Customer Segmentation: Demographic
 - Maximize purchases from elders (50+) such as creating premium product packages that suit their lifestyle.
 - Increase flexible payment options such as "Buy Now Pay Later" (BNPL) to attract young customer (18-29) to shop more often.
 - Offer special discount strategies based on purchasing behavior by age group.
- + Customer Segmentation: Behavioral
 - Increase outerwear sales with bundling promotions, for example "Buy a Jacket, Get Free Gloves".
 - Provide exclusive benefits to subscribers, such as additional discounts or early access to products.

Recommendation - Additional

- + Customer segmentation
 - Offer special discounts to customers who make regular purchases to increase Loyal Customers.
 - Offer a discount or special offer for the second purchase for customer on High Value One-Time Buyers.

- + Customer Segmentation: Demographic
 - Offer product bundling or cashback programs to attract women to shop more often.
 - Use testimonial-based marketing from women customers to increase trust.
 - Use special discount strategies for students or young workers.

Recommendation - Additional

+ Customer Segmentation: Behavioral

- Use endorsement strategies from fashion influencers to attract more customer interest.
- Provide volume discounts for purchases of more than 2 products
- Provide exclusive promotions for credit card users, such as 0% installments.
- Give discounts or cashback for payments via Bank Transfer.
- Offer a discount for repeat purchases within 7 - 14 days to increase more frequent purchases.
- Use a subscription system for certain product categories.
- Run a campaign such as "Summer Sale" with attractive discounts.
- Use flash sale strategies to attract customers to shop during the summer.
- Offer a 1-month free trial to make customers more interested in subscribing.

Annex

- [Dataset](#)
- [Colab](#)
- [Dashboard](#)
- [Gdrive](#)



The End