

IST 707 HW2

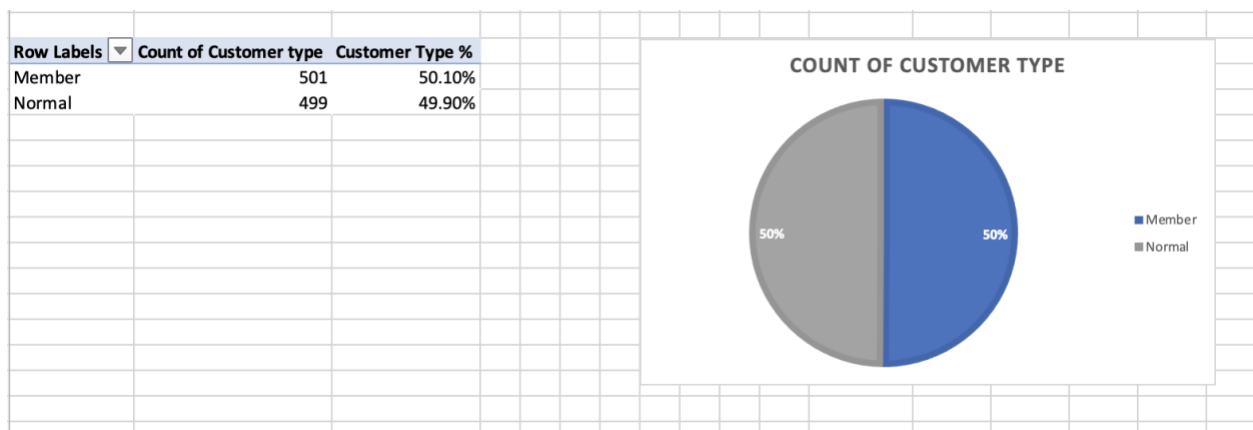
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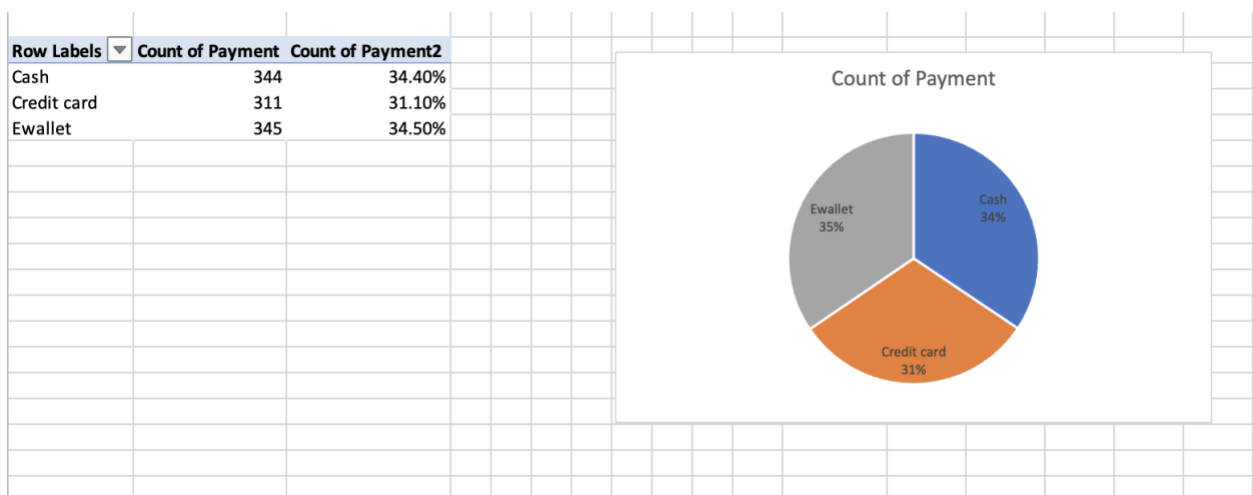
Insights:

When the dataset was checked for preprocessing, it was observed that there were no duplicate values found. I used Microsoft Excel to produce my analyses.

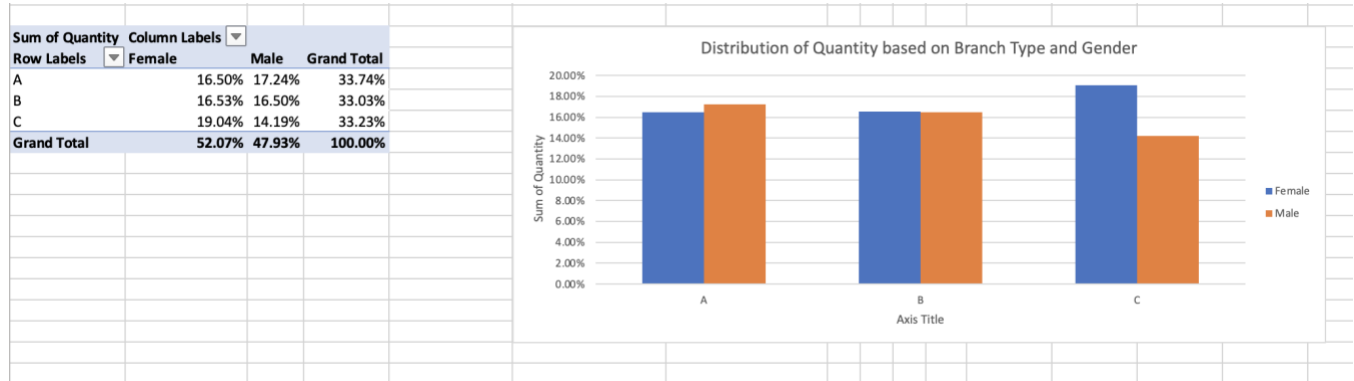
1. I first checked the distribution of customer type. It was observed that 50.10% of the Customer Type belonged to the "Member" category and 49.90% belonged to the "Normal" one.



2. Next, I checked the distribution of the "Customer Type". Ewallet took the lead, with over 34.50% of the payment count.

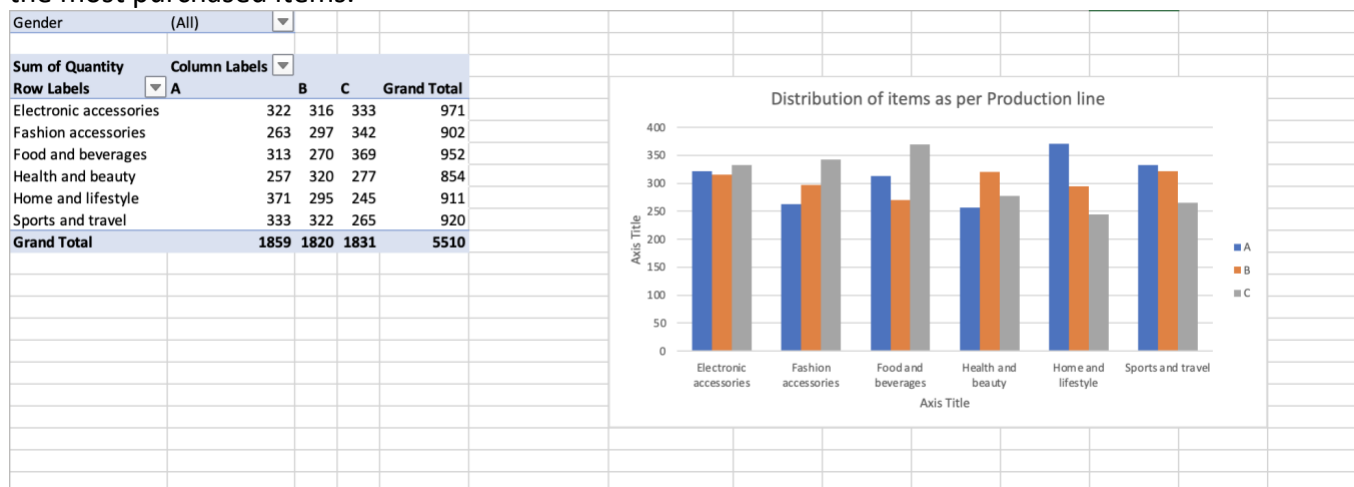


3. I checked the Distribution of the sum of quantity based on branch type and gender. I found out that in Branch A had a relatively higher male diaspora in Branch A, the female and the male percentages being neck to neck in Branch B, and the female diaspora being much higher in Branch C than the male ones.

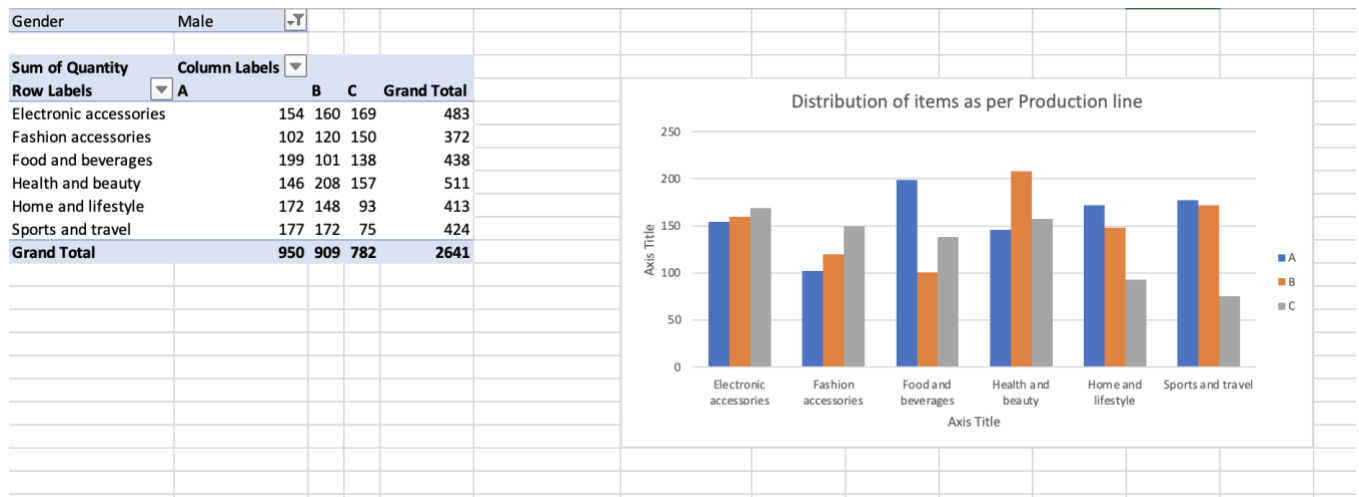


4. I checked the distribution of items as per Production Line. I have shown the production for both the genders, for the male genders and for the female gender.

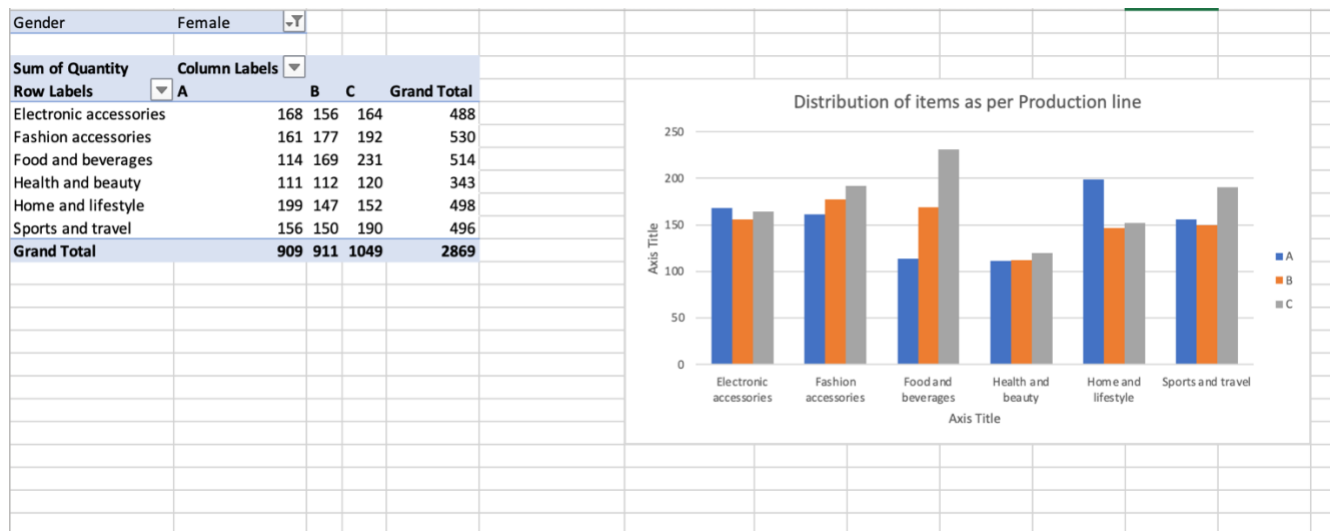
In the first diagram, we check the distribution of items for both of the genders in totality. It can be observed that both the males and females have bought reasonable amount of home and lifestyle products from Branch A, and more food and beverages from Branch C. It can be concluded that Electronic accessories are bought the most, with 971, and Branch A was sold with the most purchased items.



In the following diagram, it can be observed that men tended to buy most health and beauty products from Branch B, followed by food and beverages from Branch A, and Sports and travel from Branches A and B.

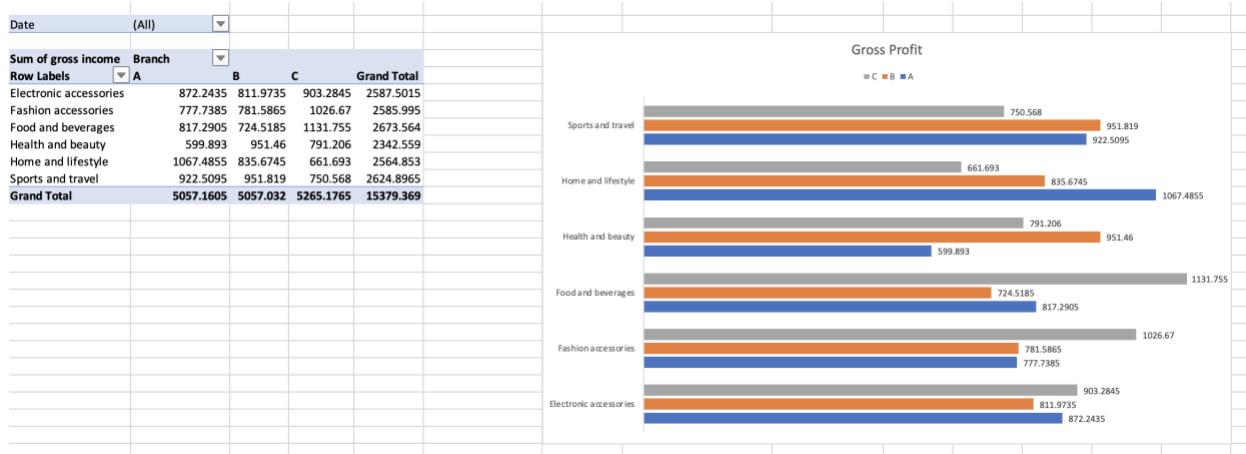


In the following diagram, women tended to buy most food and beverages from Branch C, followed by home and lifestyle products from Branch A. This makes sense as the majority of the females are closely associated with kitchenery and home decors. There is also an equal proportion of fashion accessories and sports and travel products from Branch C. It is indeed an unusual thing to note that women buy fewer health and beauty products than men do, which can probably indicate that there probably aren't enough health and beauty products for women.

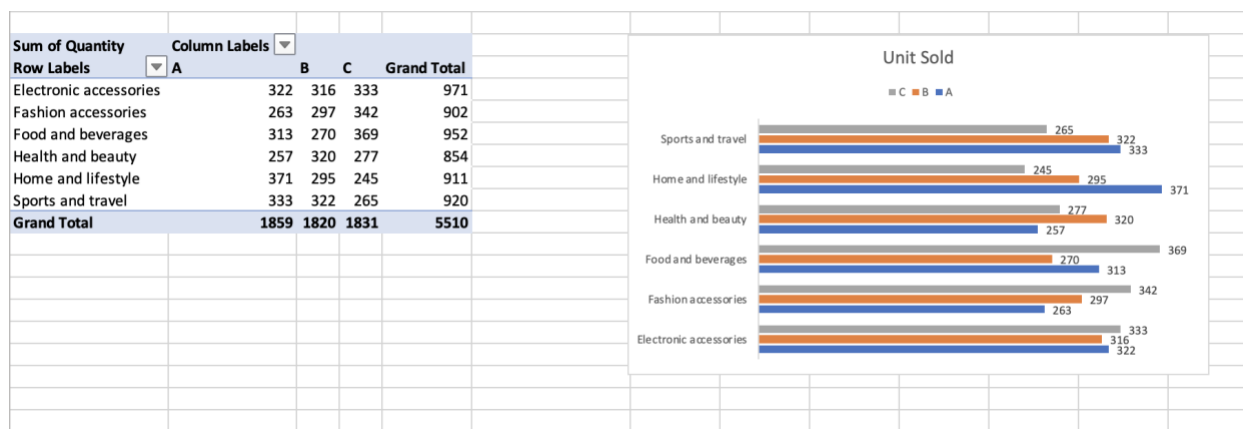


3. Gross Profit with respect to each department:

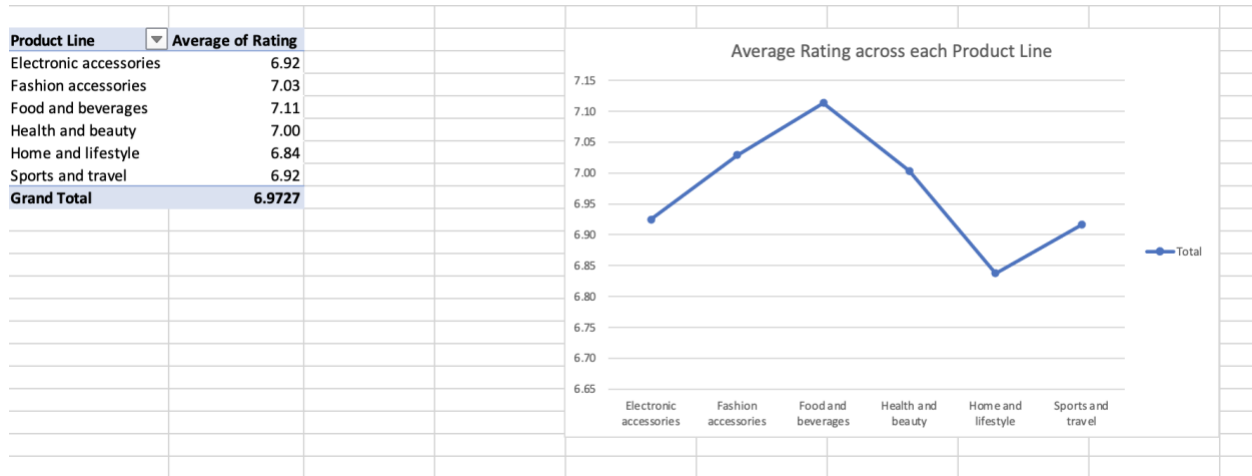
We can observe that food and beverages is the most profitable section overall, followed by sports and travel. Amongst the branches, Branch C is clearly profiting the most, and the variation can be seen in the profitability in the fashion accessories, food and beverages and electronic accessories.



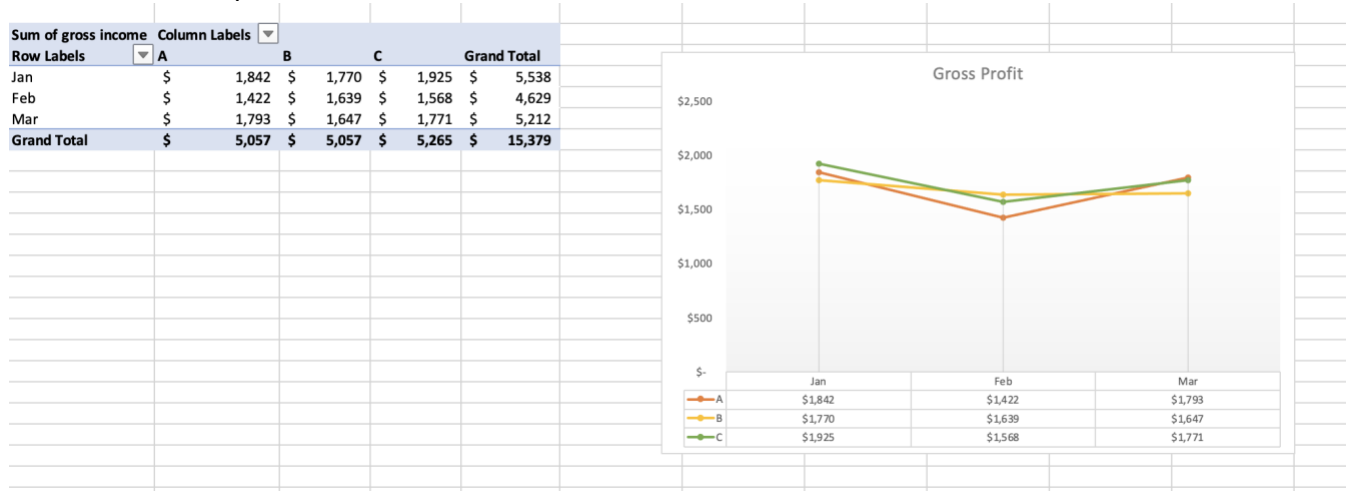
4. In terms of unit sold, electronic accessories were clearly sold the most, and Branch A observed the maximum products sold. This is of stark difference in the previous diagram in which Branch C had the most profits. Thus, we can deduce that Branch C sells more higher priced items as compared to Branch A.



5. With overall ratings only given to be 6.97, home and lifestyle has been given the least average ratings as compared to the other departments, whereas food and beverages has the highest.

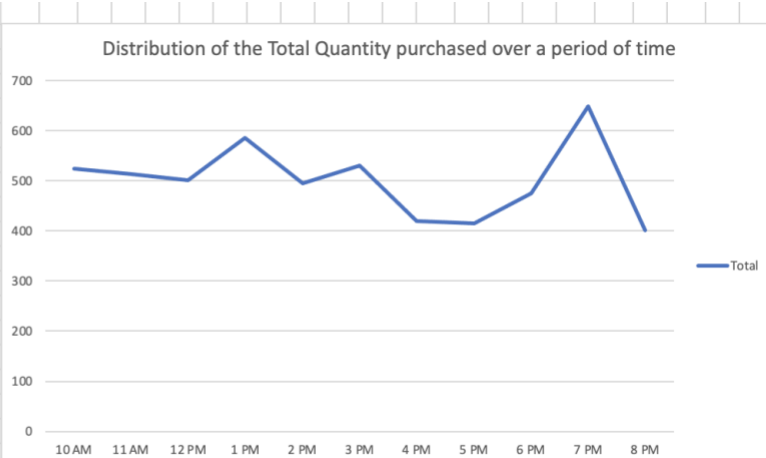


5. I tried checking the gross profit on the basis of each month during the tenure of January to March 2019. It can be observed that Branch B which observed the lowest profits in January 2019 peaked the highest in February, however crashed down again to its lowest degree. On the other hand, Branch A and Branch C have a neck-to-neck competition, with Branch C being the highest at first, then dropping second highest in February and being almost at par with C in March 2019.



6. I also wanted to do some analyses based on the Total Quantity purchased and Total Sales over a given time period. We can observe a sharp increase in the number of quantities as well as the total profits made between 6pm and 7pm, and also between 12pm to 1pm.

Row Labels	Sum of Quantity
10 AM	525
11 AM	513
12 PM	501
1 PM	585
2 PM	495
3 PM	530
4 PM	420
5 PM	415
6 PM	475
7 PM	649
8 PM	402
Grand Total	5510



Row Labels	Sum of Total
10 AM	\$ 31,421.48
11 AM	\$ 30,377.33
12 PM	\$ 26,065.88
1 PM	\$ 34,723.23
2 PM	\$ 30,828.40
3 PM	\$ 31,179.51
4 PM	\$ 25,226.32
5 PM	\$ 24,445.22
6 PM	\$ 26,030.34
7 PM	\$ 39,699.51
8 PM	\$ 22,969.53
Grand Total	\$ 322,966.75

