

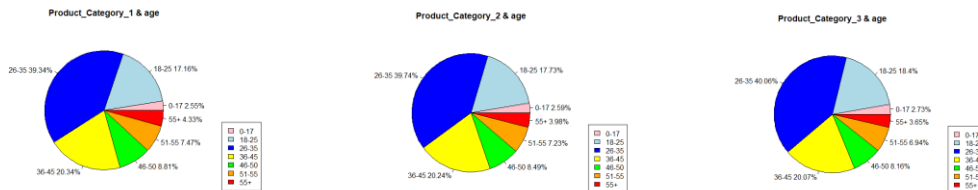
# Business Intelligence & Customer Relationship Management (COMP 3134)

## Individual Assignment

### Introduction:

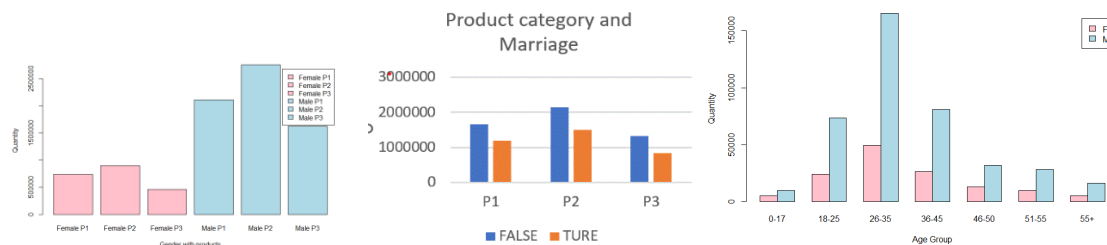
This plan aims to make implementation for maximizing Walmart's branch through data analysis. The data are analysed and plotted by the program of R.

### Data analysis:



(Table 1,2,3: Product category 1,2,3 with age groups)

The above diagrams show each product type is distributed in different age groups. All age groups have similar percentages in three products which mean product type have no big discrepancy for different age groups. 18-25,26-35,36-45 have dominated the product's sales (around 80% of each product). This can conclude the working class has a higher consumption desire.

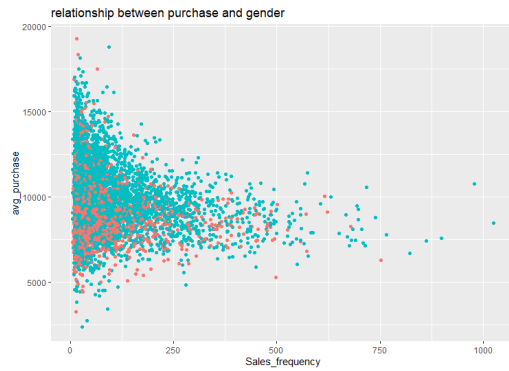


(Table 4: Product categories 1,2,3 with gender)

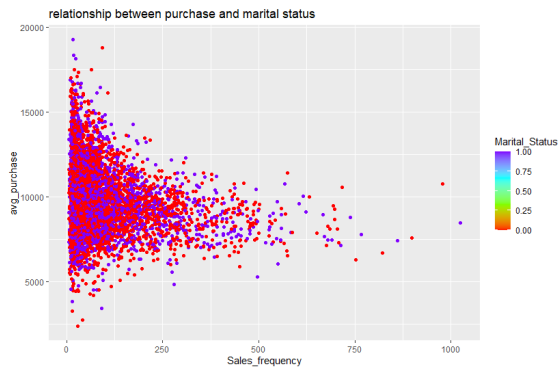
(Table 5: Product categories 1,2,3 with marital status)

(Table 6: Age and Gender)

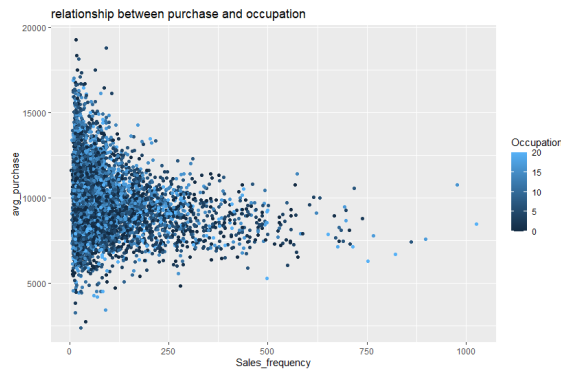
The above diagrams show the relationship between gender, marital status, and product categories. In table 4, males have higher consumption than females. Also, sales of product 2 are larger than other products in all gender. In table 5, 'FALSE' refer to single and 'TRUE' refer to marriage. The sector of single has greater consumption power than marriage in all products. The sale of product 2 performs greater than the others and the sale of product 1 performs greater than product 3. In table 6, the most biggest group of consumers is 20-35 males. The working class are more willing to consume on black Friday and these three age groups are the top three big of their gender. To sum up, product 2 has higher demand in either gender or marital status. Also, males are more willing for purchasing and the single group has a slightly high desire in buying.



(Table 7: sales performance with gender)



(Table 8: sales performance with marital status )



(Table 9: sales performance with occupation)



(Table 10: sales performance with age groups)

The above diagrams show the sales frequency and average purchase amount per each time that the analysis is divided into age groups, gender, occupation and marital status. The sales frequency refers to the same users who bought products at different times which is counted by the row number of the same user id. Referring to all tables, the data points are concentrated in the middle of the first column customers would spend around \$10000 for each purchase and most of them would come back within 100 times. In table 7, the males would spend more each time in general as the blue data points are higher than pink data points overall.

## Implementation:

In general, black Friday are more captivating for male consumers, the working class, and single groups. Also, Product 2 is always in demand. Therefore, here is some recommendation. First, try to promote female products, such as cosmetics and fancy products. Second, the branch should focus more on the family market the marriage group consume less than the single group. So, membership discounts or savings should introduce to captivate the family market. Third, the age group of 0-17 is the smallest group of consumers. To increase this target group snacks and toys can be bundled as luck bags for them. It is believed that they would be more willing to buy it for trying their fortune. Daily necessities can be bundled with toys or snacks that can captivate children in the family. As 0-17 age group have no income which has less consumption power. Therefore, it can increase the sale amount of marriage groups and enjoy the 0-17 age groups' desire for products. Also, membership savings can be redeemed for special products which can cooperate with other brands. This redemption system can captivate old age groups to save membership points as a daily task.