Cardio Good Fitness

Business Case

Background

Cardio Good Fitness is a sporting goods store that does a good number of sales in treadmills. Currently it wants to increase the sales of it’s treadmills and wants to use big data to drive actionable insights and beneficial results

Objective

To extract actionable insights from the data that we have collected of the various customers to increase sales and identify areas of growth and improvement.

We will be majorly focusing on these areas

- Customer profile (characteristics of a customer) of the different products
- Variables that influence sales
- Insights and recommendations that will help the company in targeting new customers

Data Information

The data contains type of products, income and usage stats

Variable	Description	Type of Variable
Product	The model no. of the treadmill	Categorical
Age	Age of the customer in no of years	Numerical
Gender	Gender of the customer	Categorical
Education	Education of the customer in no. of years	Categorical
Marital Status	Marital status of the customer	Categorical
Usage	Avg. # times the customer wants to use the treadmill every week	Numerical
Fitness	Self rated fitness score of the customer (5 very fit, 1 very unfit)	Categorical
Income	Income of the customer	Numerical
Miles	Miles that a customer expects to run	Numerical

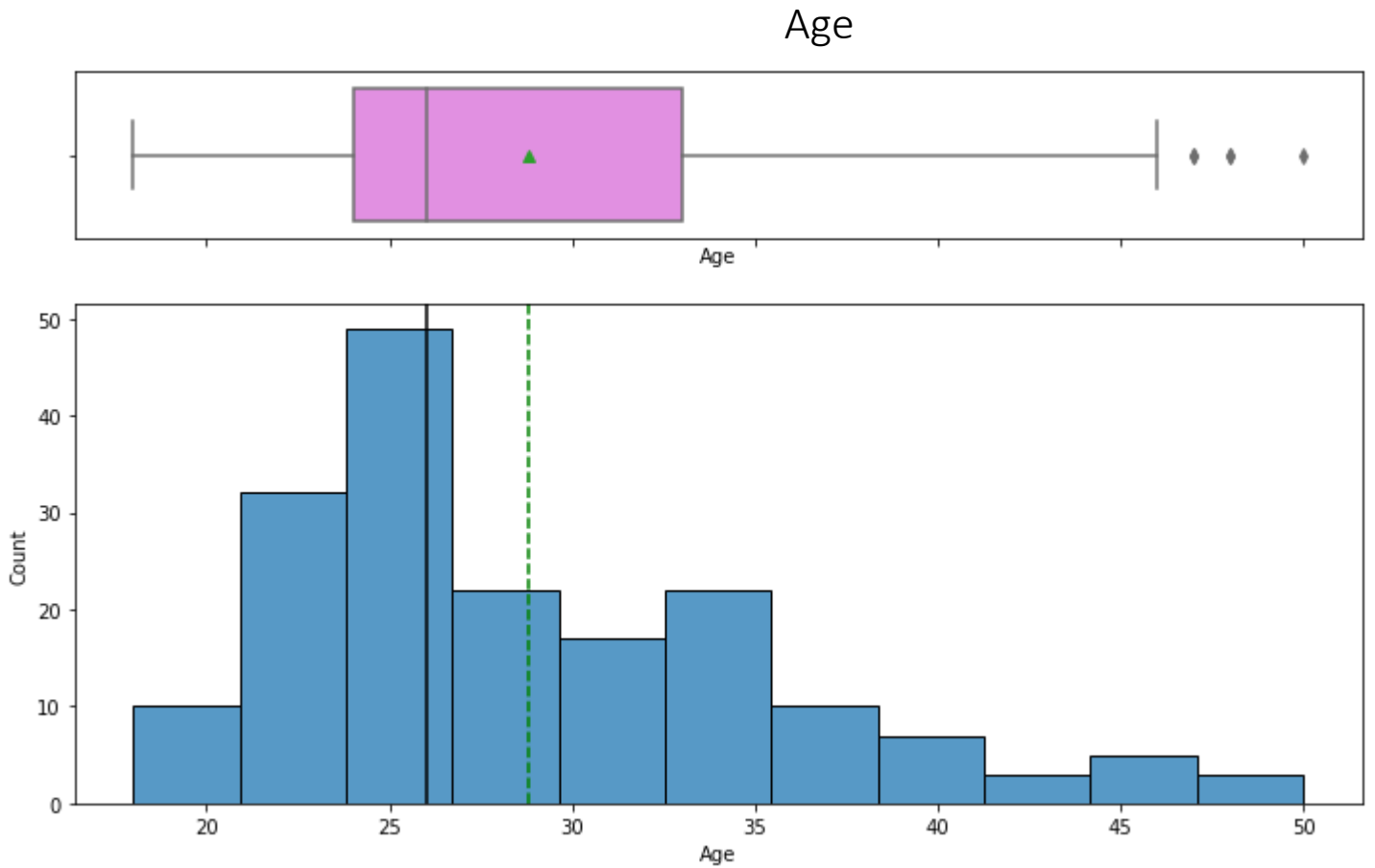
Observations	Variables
180	9

Exploratory Data Analysis - Age

This data contains the age of the various customers

Observations:

- The distribution of Age is rightly skewed
- Most of the buyers are between 25 and 30
- Mean is ~29 while median is ~26
- There are a few outliers on the right

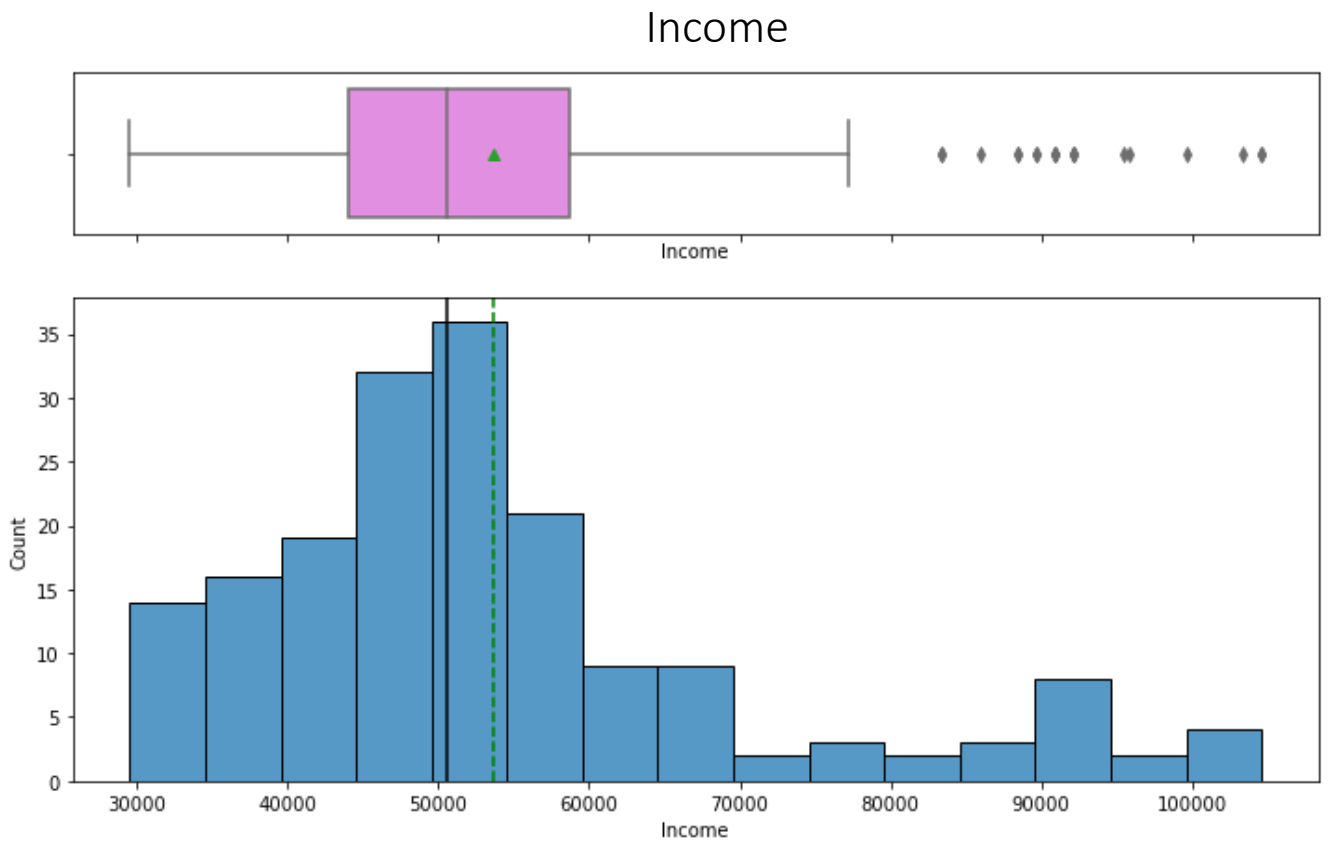


Exploratory Data Analysis - Income

This data contains the income of the various customers

Observations:

- Both the median and Mean income are closely related
- However there are some outliers on the right
- Most buyers seem to earn around the 50,000 mark

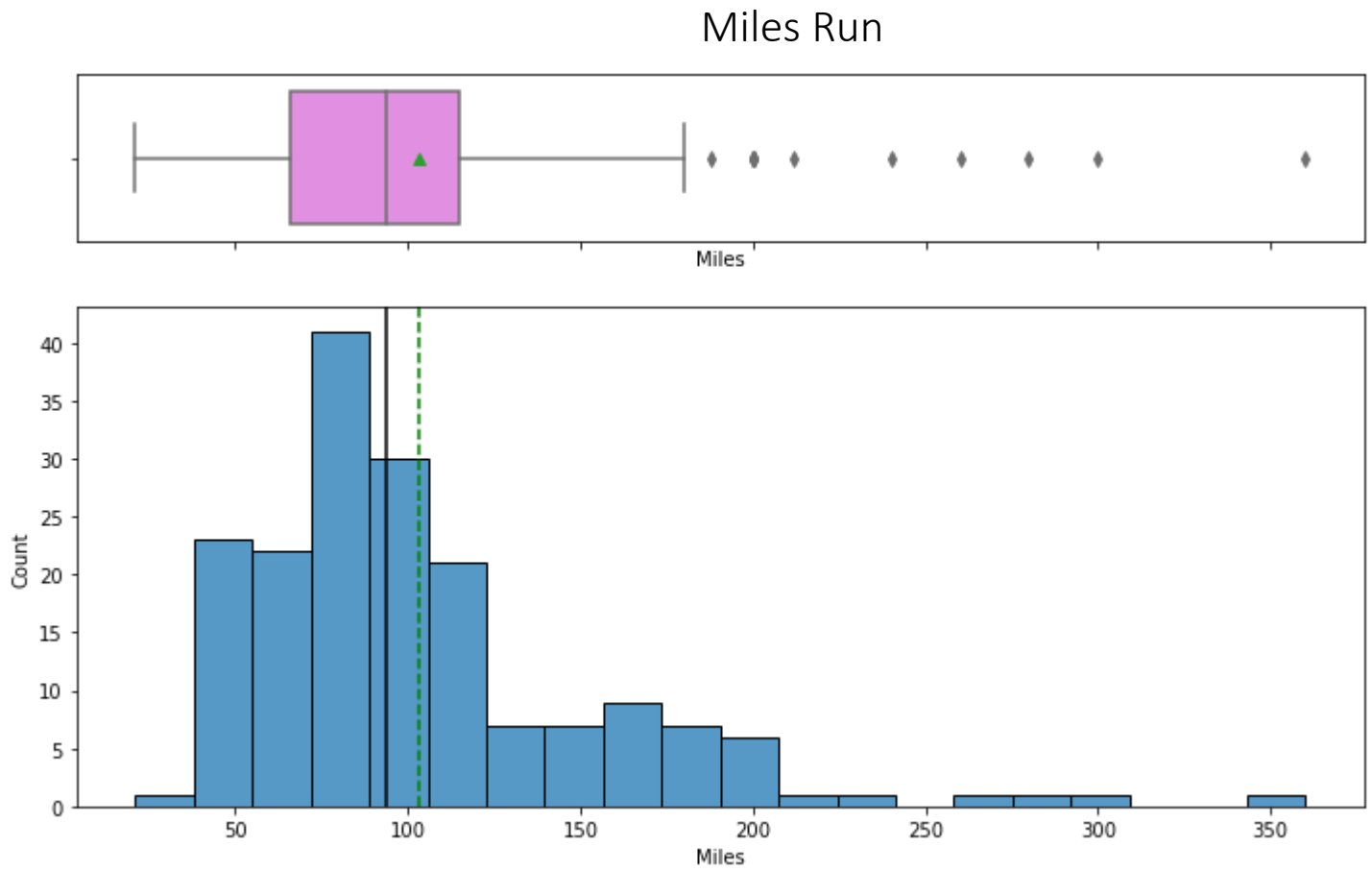


Exploratory Data Analysis – Miles Run

This data contains the miles run of the various customers

Observations:

- Both the median and Mean income are closely related
- However there are some outliers on the right
- Most buyers seem to pedal at around the 70m mark

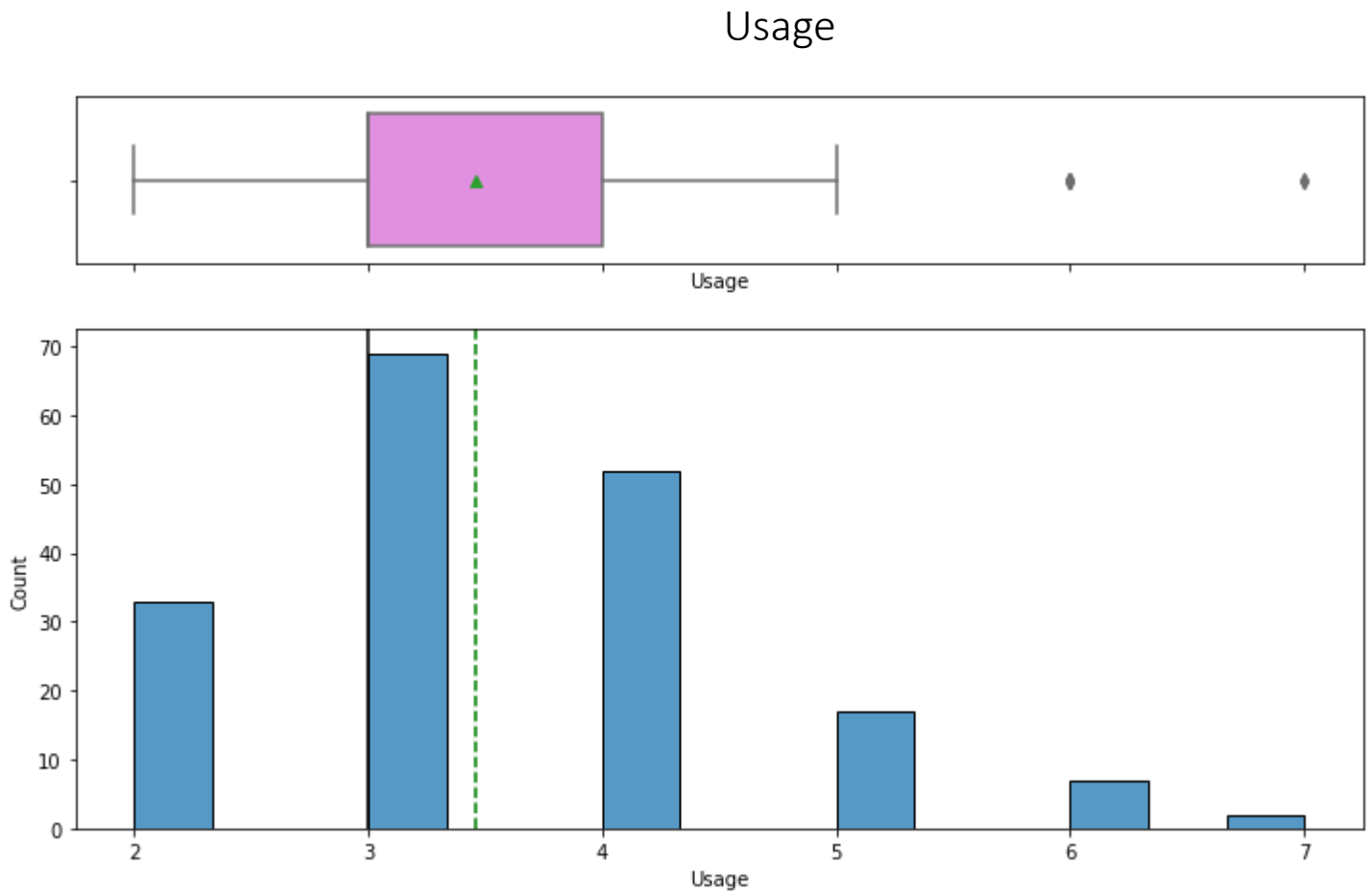


Exploratory Data Analysis – Usage

This data contains the usage of the various customers

Observations:

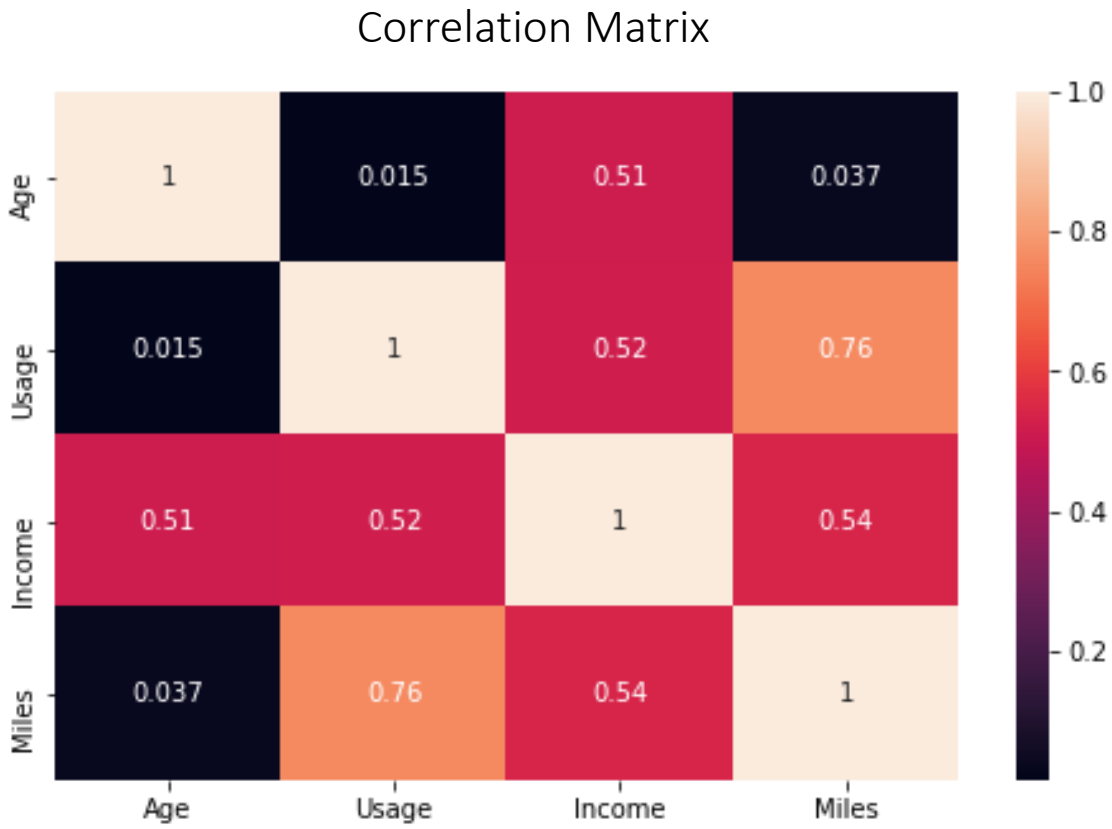
- Both the median and mean income are closely related
- However there are some outliers on the right
- Most buyers use their treadmill an average of 3 times



Exploratory Data Analysis – Correlation Matrix

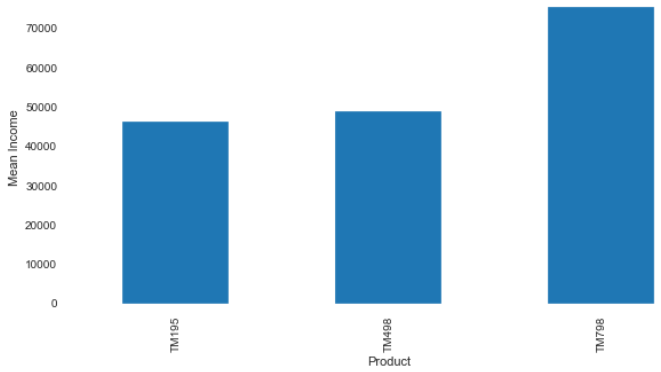
Observations:

- As expected, Age and Usage do not have a strong correlation
- Age and Income have a reasonably strong correlation which is fine
- There is a strong correlation with Usage and Miles as expected
- Usage and Income have a reasonably strong correlation which is fine
- It is important to note that correlation does not imply causation



Exploratory Data Analysis – Treadmills

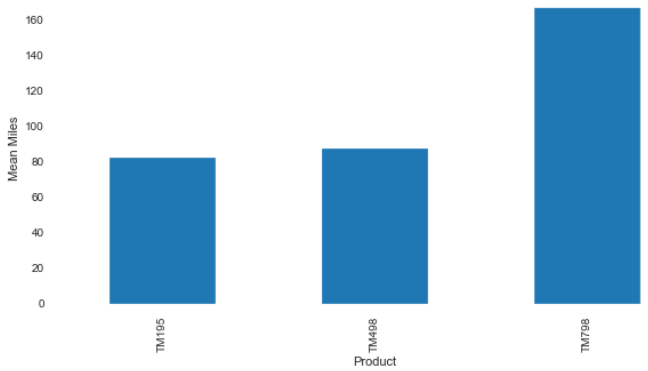
Mean Income



Observations:

Buyers with the highest mean income purchase the TM798

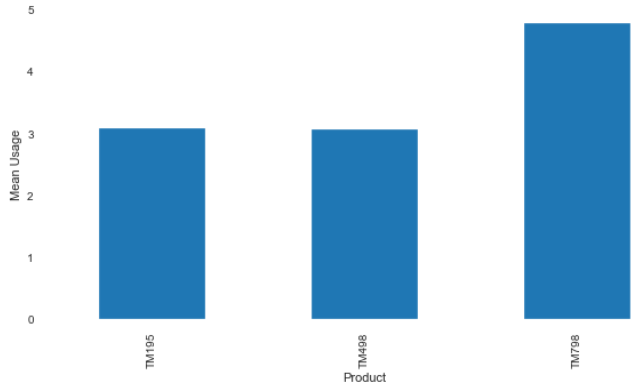
Mean Miles Run



Observations:

The TM798 has the highest number of miles run of all the products

Mean Usage



Observations:

- The TM798 has the highest usage of all the products.
- This tracks due to the high correlation with the number of miles run

Profile of Treadmill Buyers

TM195

- Has the highest number of buyers
- Average income of 46,418
- Average usage of 3.1 times a week
- Average fitness level of 3
- Average miles run of 82.8

TM498

- Has the second highest number of buyers
- Average income of 48,974
- Average usage of 3.1 times a week
- Average fitness level of 2.9
- Average miles run of 87.9

TM798

- Has the lowest highest number of buyers
- Partnered buyers earn more than single buyers
- Average income of 75,442
- Average usage of 4.8 times a week
- Average fitness level of 4.6
- Average miles run of 166.9

Conclusion

I analysed the 180 buyers of the Cardio Good Fitness. The main features of interest here are Usage, Income and Product. From a purely business perspective, having products that aren't being used is just increasing cost. Thus, I determined the factors that affect Usage and the nature of their effect.

I have been able to conclude that:

- The most common product is TM195
- The product with the highest usage is TM798
- The product with the highest usage amongst buyers with high Fitness levels is TM798
- Buyers with the highest income use TM798
- Buyers with the highest education use TM798
- More men (by almost 40%) than women visit the store
- There are more partnered buyers than single buyers
- Buyers that have higher miles run and have a higher usage, generally have a higher Fitness level

Recommendation

Based on the analysis, there are following recommendations that can help the business grow:

- TM195 is the most common product. However, TM798 is the most used product. As such more should be made available to the buyers that desire the product
- There are more partnered buyers. As such, there should be pricing offers targeted at partners
- TM798 seems to be the product for the 'serious' buyers. As such, the product should be heavily featured in campaigns
- Campaigns to women should be made available as there are currently more male than female buyers
- We need to procure more data on price and build a model that can predict optimal pricing