Cardio Good Fitness

Business Problem Overview and Solution Approach

- Analyze Cardio Good Fitness product purchases via Exploratory Data Analysis on recent purchases
- Analyze potential factors influencing purchasing decisions
- Create a customer profile for Cardio Good Fitness
- Use customer profile to generate insight into targeting new customers

Data Overview

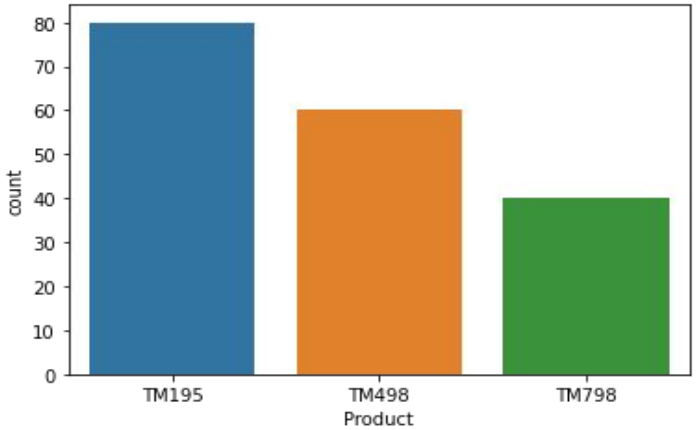
Variable	Description
Product	Model # of treadmill
Age	Age (in years) of customer
Gender	Customer Gender (Male/Female)
Education	Education (in years) of customer
MaritalStatus	Single/Partnered
Usage	Average # of times customer wants to use treadmill per week
Fitness	Self rated score from customer (1-5)
Income	Income of customer
Miles	Miles customer expects to run

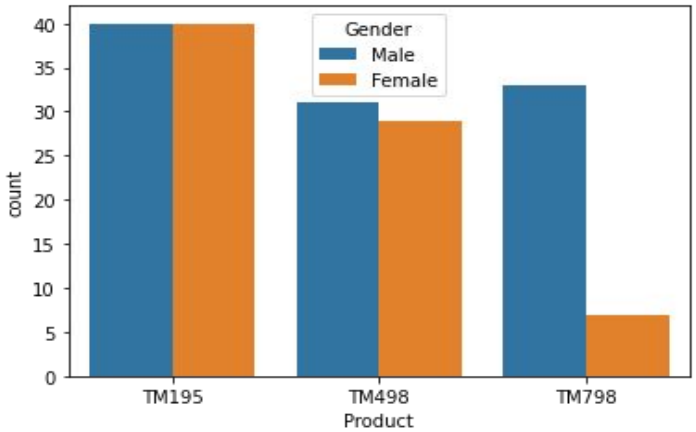
Data contains customer history of Cardio Good Fitness

Observations	Variables
180	9

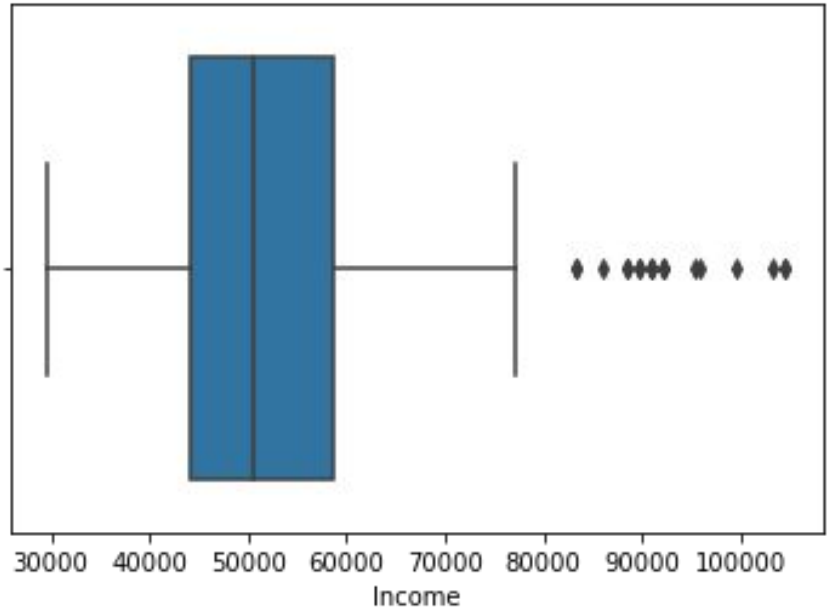
EDA: Product Purchase Overview

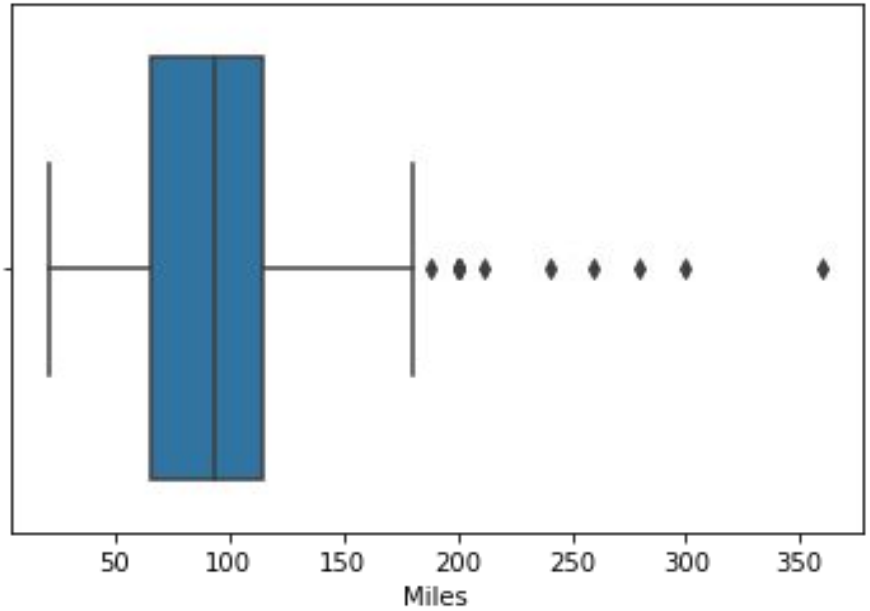
- Product sales dominated by models TM195 (80) followed by TM498 (60) and lastly TM798 (40)
- Both TM195 and TM498 show semi-equal sales across male/female customers
- Sales of TM798 are dominated by male customers





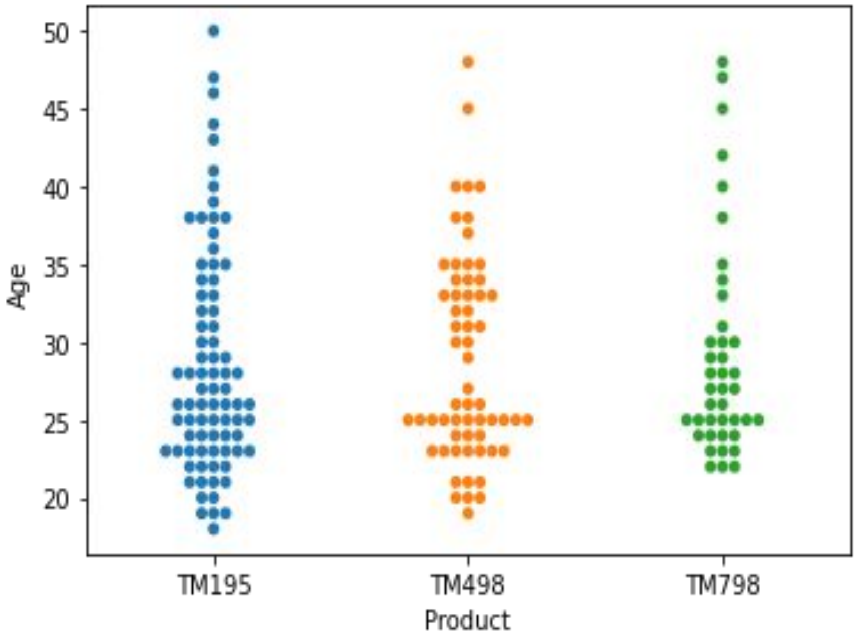
Exploratory Data Analysis: Univariate Analysis

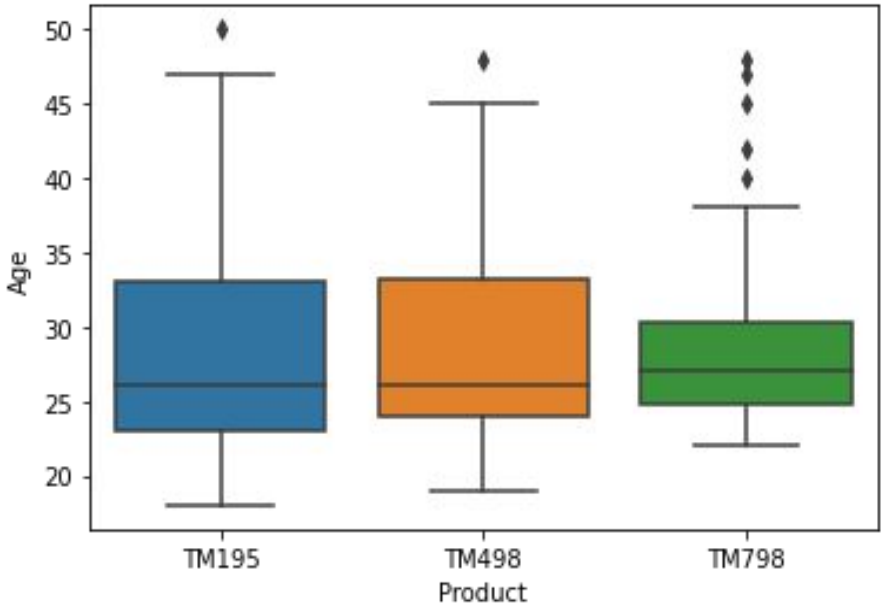




- Income has many outliers with 50% of customers falling in between $45-60,000
- Miles is a predictive variable from the customer with many outliers and 50% falling between 66 -114 miles a week

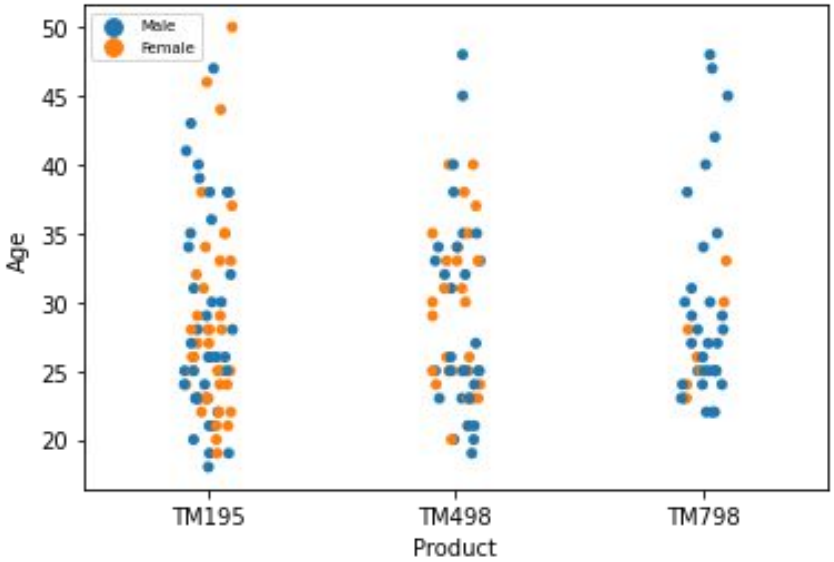
Exploratory Data Analysis: Customer Breakdown by Age

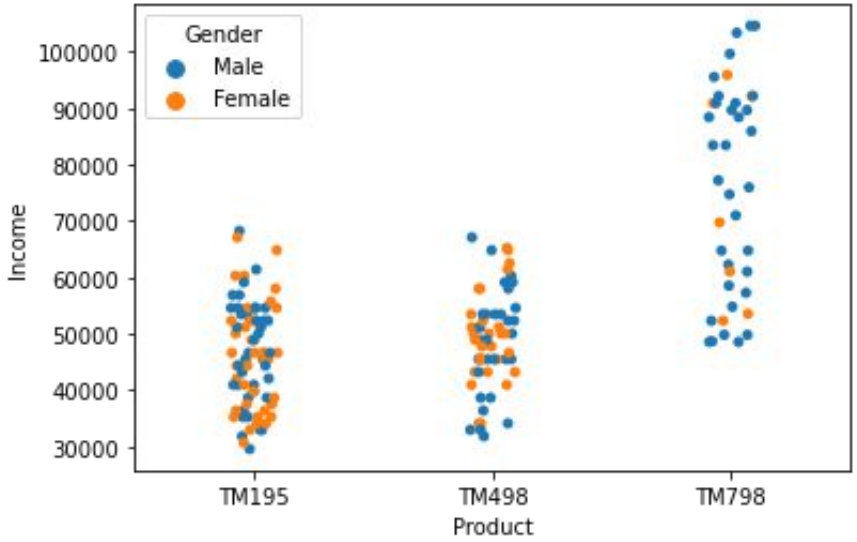




- Majority of customers below 35 years old across all products with TM798 customers having the most outliers

Exploratory Data Analysis: Product Sales by Gender





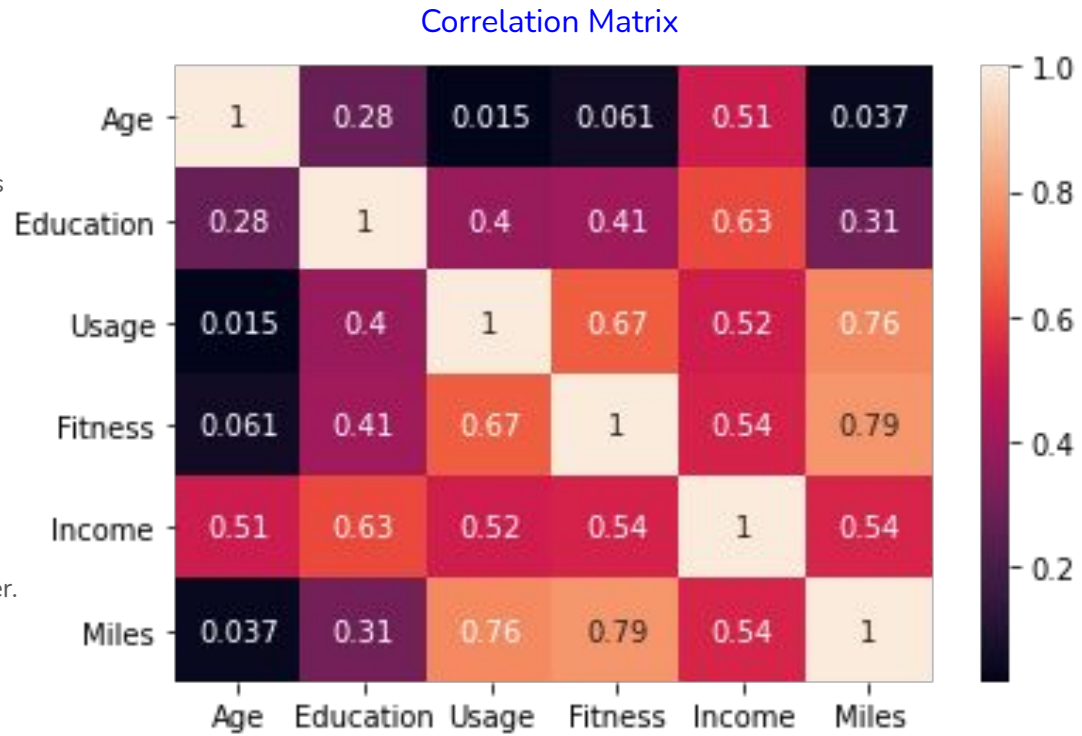
- Distribution of customers by gender shows equal distribution for TM195 and TM498, but TM798 sales favor males

- Vast majority of customers have income below $70,000. Only customers with income above $70,000 purchase the TM798

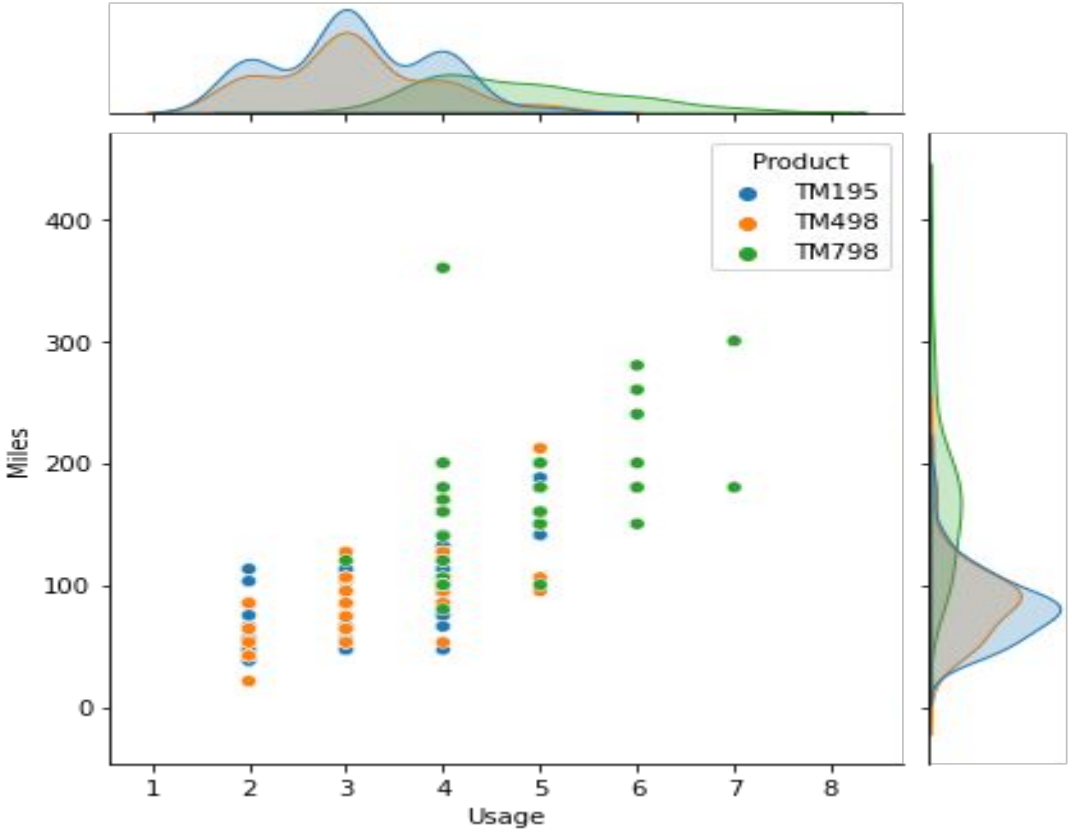
Exploratory Data Analysis: Correlation Matrix

Observations

- No negative correlations
- High correlations between Usage and Miles. both are predictive variables, so as usage increases so to would miles run.
- Another high correlation can be seen between fitness and Miles/Usage. Customers with a higher fitness Index predict higher miles and usage.
- Also a noticeable correlation between income and education. The more years spent in education, the more income a customer has.
- Lowest correlations involve the age of the customer. So, age is not as influential to purchases.

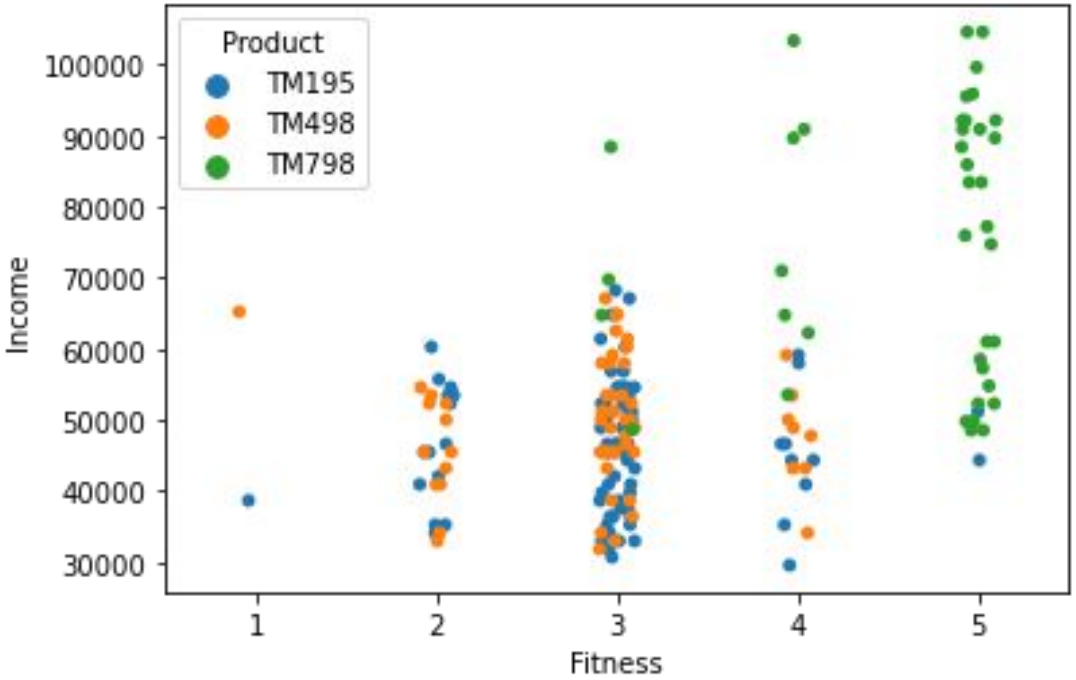


Exploratory Data Analysis: Miles vs Usage



- Customers with higher usage and higher predicted miles prefer the TM798 model.
- 50% of the customers have a weekly usage of 3 times a week and less than 100 miles.
- TM195 and TM498 have very similar distributions

Exploratory Data Analysis: Income vs Fitness



- Distribution shows income still heavily favors TM798 purchases and customers purchasing that model have the highest self-rated fitness levels.
- Most of the purchases are by sub $70,000 income customers with fitness levels in the mean at 3.

Business Insights

- TM798 sales cater to higher income customers with a majority of them being male.
- Customers of average income ($70,000), and average fitness levels (3), prefer the TM195 model.
- TM498 has a similar customer profile to that of TM195 with no noticeable correlation differences in customers. The only main difference is units sold.

Recommendations/Future Analysis:

- Do sales on certain products favor models over others?
- Need more information regarding product prices as that could assist in determining which model to focus on for greatest profit margin.
- Data is heavily predictive in nature. Would be beneficial to gather actual data to compare to, i.e compare customer miles/usage/fitness to actual values.
- More information regarding miles and whether it is daily/weekly/monthly, etc.
- Incorporate a monthly tracking program to create customer ownership on the predictive variables and compare them to customer actual values which could drive customer appreciation and retention, and also bring in new customers via word-of-mouth.
- How can sales to females for the TM798 increase?
- What are the differences/similarities between TM195 and TM498 that would cause similar customer profiles, but have unequal units sold?