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Core business idea

Differences between customers of each product

Problem to tackle

Variables that influence the product choice

Financial implications

Ways to target new customers.

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Data Overview

Data: Customers of the treadmill product(s):

Columns	Description	Dtype
Product	Model no. of the treadmill	category
Age	Years of the customer	Int64
Gender	of the customer	category
Education	in no. of years, of the customer	Int64
MaritalStatus	of the customer	category
Usage	Avg. # times the customer wants to use the treadmill/weekly	int64
Fitness	Self rated fitness score (5 - very fit, 1 - very unfit)	int64
Income	of the customer	int64
Miles	expected to run	int64

Note:
1. There are no missing values in the data;
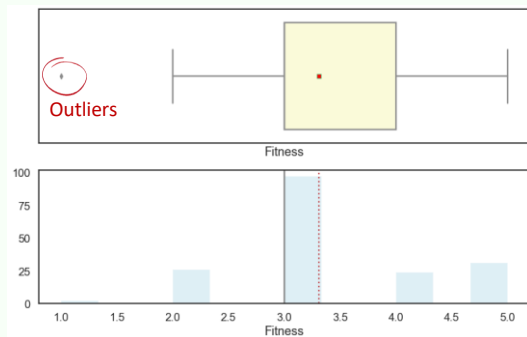2. Product, Gender, and Marital Status should be categorical variables.

Observations	Variables
180	9

Exploratory Data Analysis

Uni-variate: Exploring the <u>numerical</u> variables:
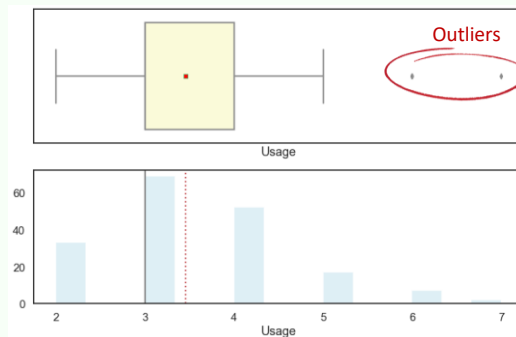
Data by Fitness

Observations
- Self rate score is concentrated around 3, showing moderate Fitness.
- Median (3) and mean (3.3) are almost the same, showing no skew.
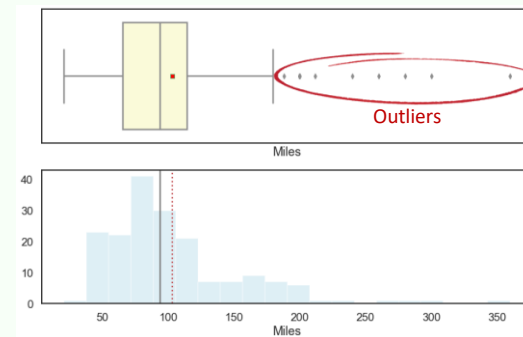- There are 2 customers that self rate themselves as 1, and they are the outliers.

Data by Usage

Observations
- Usage it is showing a positive skew, concentrated between 3 and 4 times per week;
- There are some outliers in this variable, showing 6 and 7 times/week using the treadmill.
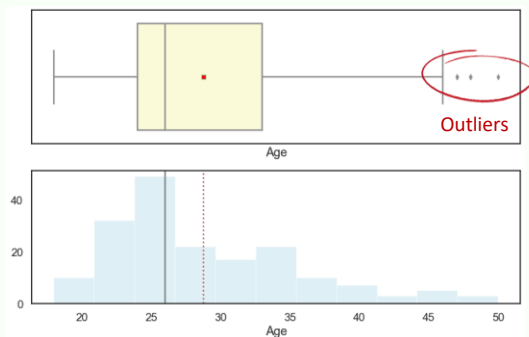
Data by Miles

Observations
- There are 12 outliers on Miles greater than or equal to 200;
- Miles has a right skewness and mean around 103.

Exploratory Data Analysis

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Uni-variate: Exploring the <u>numerical</u> variables:
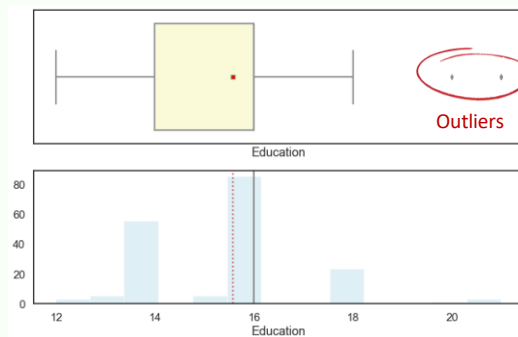
Data by Age

Data by Education

Data by Income

Observations
• The distribution of Age is right skewed, showing that user are concentrate between 20 to 30 years old.
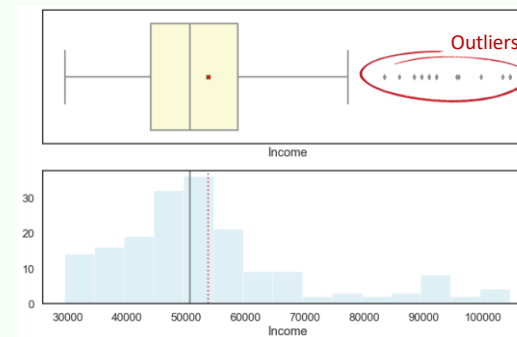• There are some outliers in this variable, customers around 45 to 50 years old.

Observations
• Education is concentrated around 16 years.
• Median and mean are almost the same, showing no skewness.
• There are some outliers in this variable, showing 20 and 21 years of education.
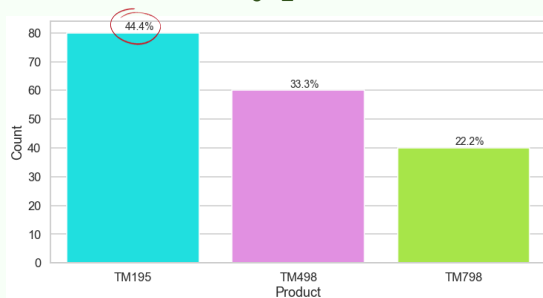
Observations
• Income has a right skewness, showing a lot of outliers on the right side.
• The mean income of Customers is around $53k.

Exploratory Data Analysis

Uni-variate: Exploring the <u>categorical</u> variables:

Sales by product
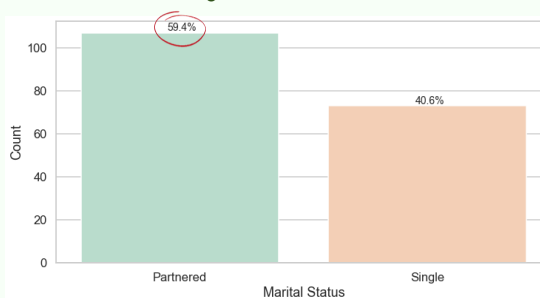

Sales by Marital Status

Sales by Gender

Observations
- The store has 3 models of Treadmill;
- TM195 is the most popular Treadmill, responsible for 44.4% of sales;
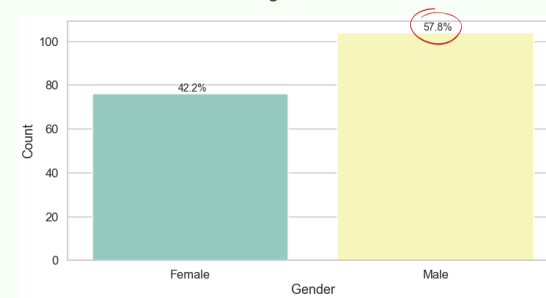- TM498 is the second popular Treadmill and TM798 the third.

Observations
- The store has 59.4% of customers Partnered;
- Only 40.6% of customers are Single.

Observations
- 57.8% of customers are Male, showing that Male are buying more than Female.

Overview Customer Profile:

In this data, there are variables like age, usage/week,
self rate for fitness, income, product, gender that affects the sales.

VARIABLES	Min	Max	Average	Median
Age	18.0	50.0	28.80	26.0
Education	12.0	21.0	15.57	16.0
Usage	2.0	7.0	3.45	3.0
Fitness	1.0	5.0	3.31	3.0
Income	29.6k	104.6k	53.7k	50.6k
Miles	21.0	360.0	103.19	94.0

Cardio Good Customer Profile:

1. Age average is 28.8 in a range 18 to 50;

2. Average Self Rate of Fitness 3.3;

3. Range of income between 29.6k to 104.6k with average 53.7k, indicating some outliers;

4. Customers expected to run 103.19 miles per week as average.

5. Male and Partnered buy more Treadmill;

6. There are a preference for the product TM195.

Exploratory Data Analysis

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***Correlation Matrix:*** Exploring the numerical variables:

Observations:

✓ Age, has correlations with Income (0.5) but has no considerable correlations with other variables;

✓ Education is correlated with Income (0.6);

✓ Usage has high correlation with Fitness (0.7) and Miles (0.8) as an expected result;

✓ Fitness has high correlation with Miles (0.8) as expected as well.

Exploratory Data Analysis

**Bi-variate / Multivariate:** Exploring the variables:
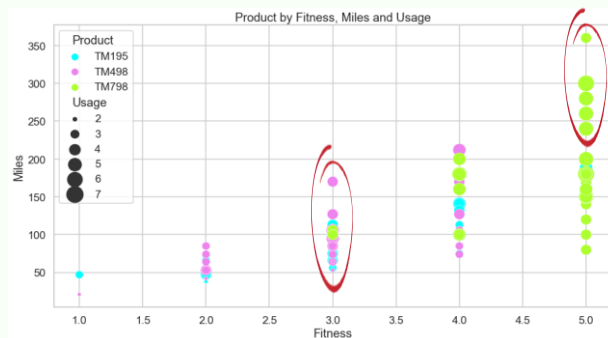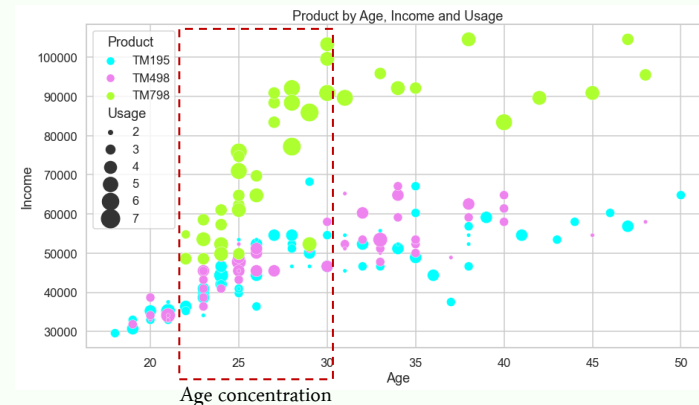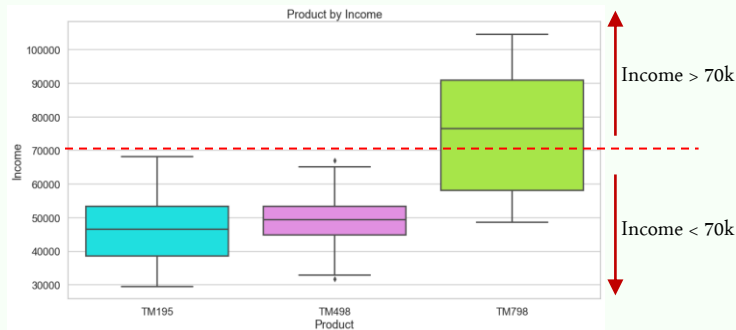
Observations

• Customers with income greater than $70k tend to buy the product TM798 and expect to use 5 times per week (average), running a mean of 166 miles.

• Age concentration for product TM798 and TM195 between 22 to 30 years old.

• TM195 and TM498 have almost the same customer profile, with income less than 70k, fitness average of 3 and miles on range 80 to 90 per week.

Exploratory Data Analysis

**Bi-variate / Multivariate:** Exploring the variables:
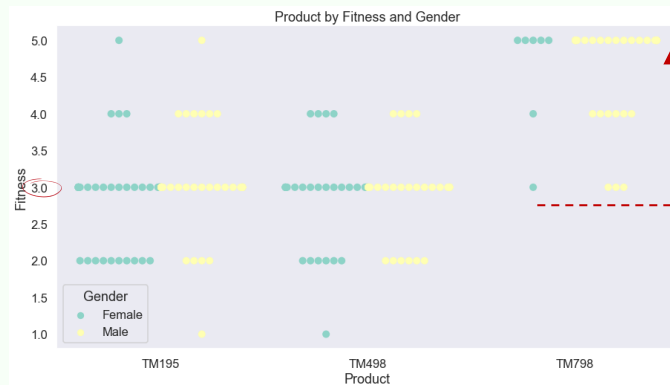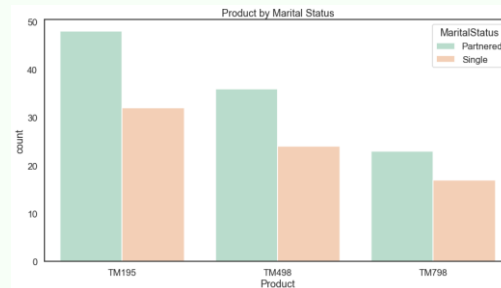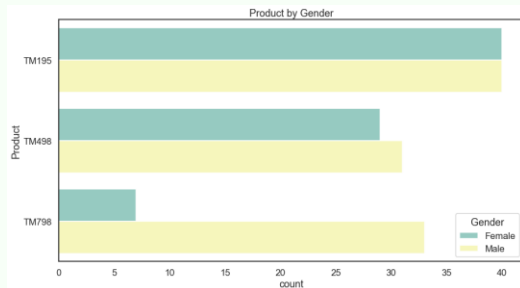
Observations

•TM195 has equal number of Female and Male customers (40) and higher number of partnered.

•TM498 sales for male (31) is a little bit higher than for Female (29) and has higher number of partnered.

•TM798 sales for male (33) is considerably higher than for Female (7) , also preferable for partnered customers and the ones that self rate equal or greater than 3.
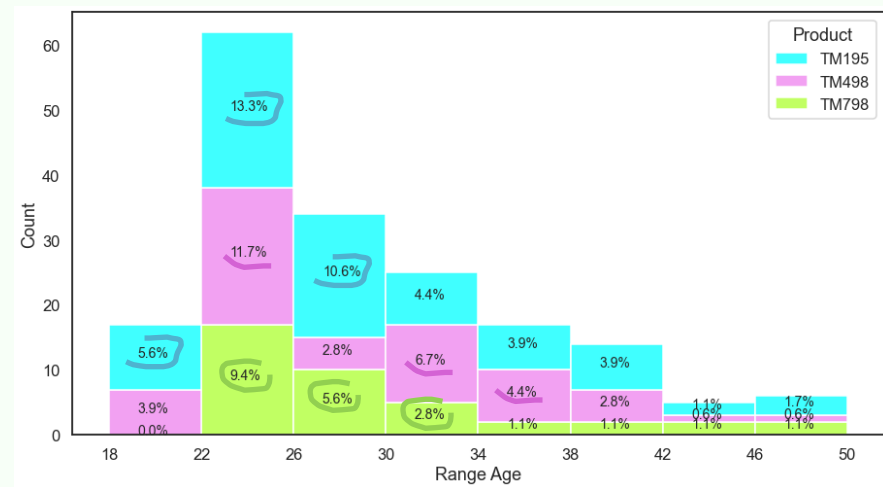
Analyzing Age distribution:

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Age Cardio Good Customer
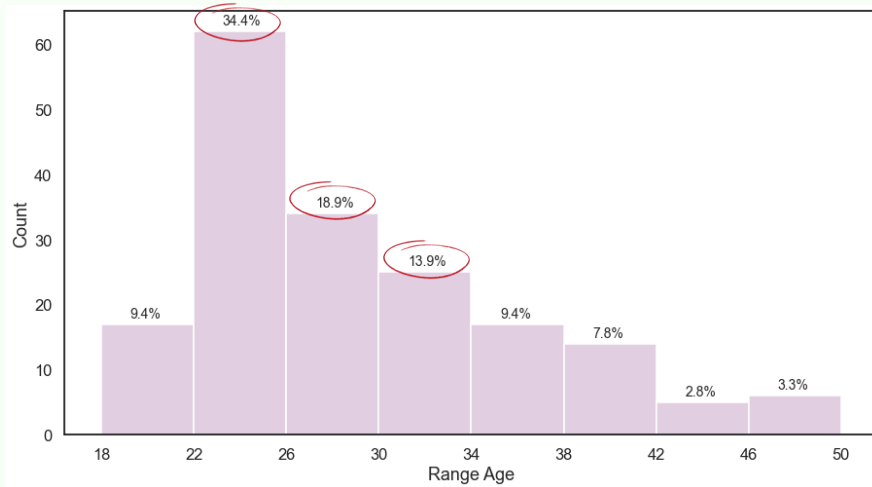
•67% of sales are concentrated on customer with range of age between 22 to 33 years old.

Age Customers by Product


• TM195 Range 18 to 29 years old represents **30%** of total sales;
• TM498 Has a mixed range, 22 to 25 and 30 to 37, **23%** of sales;
• TM798 Range 22 to 33 years old, **18%** of total sales.

Customer Profile by Treadmill:

In this data, there are variables like age, education, usage/week,
self rate for fitness, income and miles/week that affects the product choice.

VARIABLES	Treadmill TM195				Treadmill TM498				Treadmill TM798			
	Min	Max	Average	Median	Min	Max	Average	Median	Min	Max	Average	Median
Age	18.0	50.0	28.6	26.0	19.0	48.0	28.9	26.0	22.0	48.0	29.1	27.0
Education	12.0	18.0	15.0	16.0	12.0	18.0	15.1	16.0	14.0	21.0	17.3	18.0
Usage	2.0	5.0	3.1	3.0	2.0	5.0	3.1	3.0	3.0	7.0	4.8	5.0
Fitness	1.0	5.0	2.9	3.0	1.0	4.0	2.9	3.0	3.0	5.0	4.6	5.0
Income	29.6K	68.2K	46.4k	46.6K	31.8K	67.1k	48.9K	49.5K	48.5K	104.6K	75.4K	76.6K
Miles	38.0	188.0	82.8	85.0	21.0	212.0	87.9	85.0	80.0	360.0	166.9	160.0
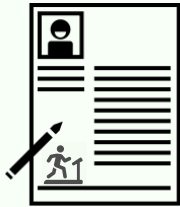
Customer Profile TM195:
• Most popular (44.4% of sales);
• Age concentration between 18 to 29 years old;
• Moderate to low use expectation;
• Maximum Income 68.2k.

Customer Profile TM498:
• Preferable by Male;
• Age average 28.9 years old.
• Moderate to low use expectation;
• Lowest difference between range of income (31.8k to 67.1k).

Customer Profile TM798:
• Less popular Treadmill (22.2% of sales);
• Age concentration between 22 to 33 years old;
• Highest use expectation;
• Highest Income with 75.4k average.

Insights

1. TM195 is most popular treadmill, purchased by customers with income lower than 68.2k and regular usage expectation;
2. Customers of TM498 also expect regular usage but miles per week greater than TM195 customers;
3. Age do not much impact in usage, but sales are concentrated on ages between 22 to 33 years old;
4. Higher income, education and usage is correlated with TM798 treadmill
5. Male and Partnered buy more treadmill.

Recommendations

1. TM195 and TM498 has similar customer profile, its necessary to plan what kind of customer for each:
   - TM 195 as basic (no more sedentary lifestyle; builded for everybody)
   - TM498 intermediary (upgrade you basic TM195 to a semi-professional, advanced tech)
   - TM798 as professional (high quality, technologic, used by professionals…)
2. Marketing per range of age to bring new customers (age >33) and marketing to range 22 to 33 to upgrade their treadmill.
3. Marketing to target Female and Singles customers.

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Business Insights and Recommendations

cardiogoodfitness.com

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