

Cardio Good Fitness Business Case - Analysis

SARAVANAN RANGARAJAN (SR)

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Business Problem Overview

Cardio Good Fitness is exercise equipment's selling Retail Store looking to increase sales of its products by understanding potential Customer characteristics.

Three products TM195, TM498 & TM798 are currently sold in the market. Based on the current user base, Cardio Good Fitness collected the data to have focused customers to market and sell their products.

Understanding customer behavior by conducting Questionnaire based Survey is one of the proven approach, where in Sample of the targeted population would give perspective and marketing insights.

By Improving the Sales, the store revenue would increase thus bringing in more products to market.

Solution Approach

With the Dataset collected, Exploratory Data Analysis to be performed to find patterns and propose Business recommendations

Following are the set of activities to be performed

- Understand the quality of data
- Try to mark out the data collected is good for analysis by checking the skewness, categorical variable analysis.
- Perform Univariate & Multivariate Analysis to find relation ship between various factors, so that patterns can be identified for efficient Business recommendations
- Also, identify the any stale data collected, so the data collection process can be improved.

Data Overview

- Data was collected across customers of Treadmill products. It contains following fields
 - Product - The model no. of the treadmill
 - Age - Age of the customer in no of years
 - Gender - Gender of the customer
 - Education - Education of the customer in no. of years
 - Marital Status - Marital status of the customer
 - Usage - Avg. # times the customer wants to use the treadmill every week
 - Fitness - Self rated fitness score of the customer (5 - very fit, 1 - very unfit)
 - Income - Income of the customer
 - Miles- Miles that a customer expects to run
- It has 5 Numerical values & 4 Categorical values (Marital Status, Gender, Product & Fitness)
- Null checks have been done to check the data. No null values exist.
- Duplicate checks have been done. No Duplicate values exist.
- Check the distinct values in the Categorical columns and check the data spread for general information.



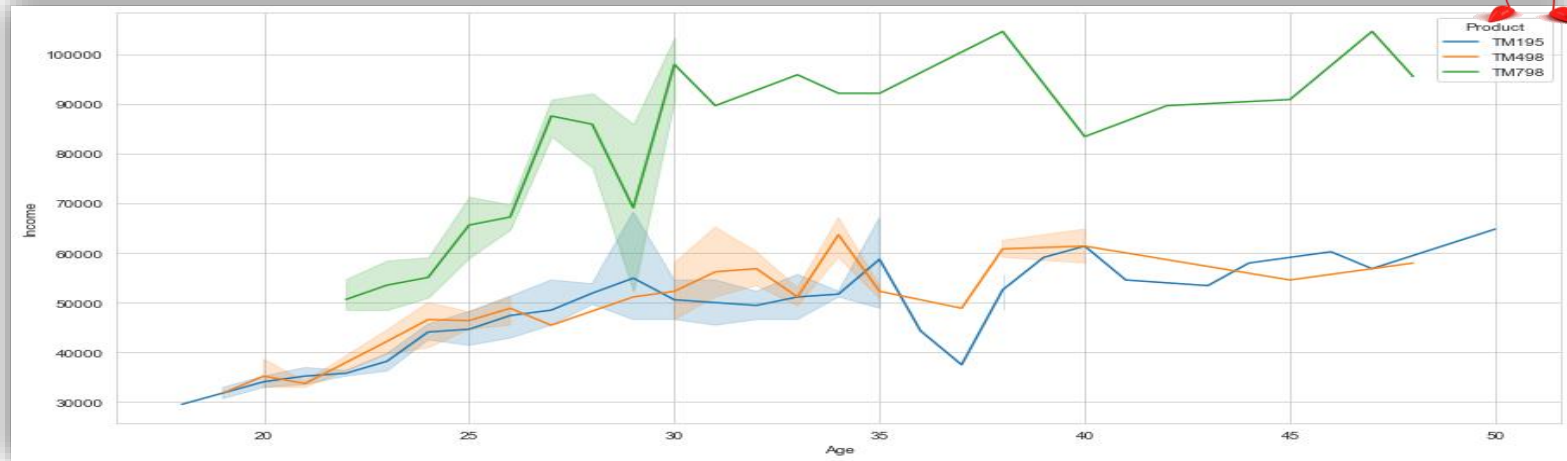
Age – Income – Education Analysis

- Average age group & Income & Education for all 3 products are shown below

Products	Age	Income	Education
TM195	28.55	46418.0	15.03
TM498	28.9	48973.7	15.11
TM798	29.1	75441.6	17.32

- We can see that Average age is 29 and Income level for TM195 & TM498 is almost same and same with Education Level
- Obviously TM798 has income level higher denoting that it is the most expensive among 3.

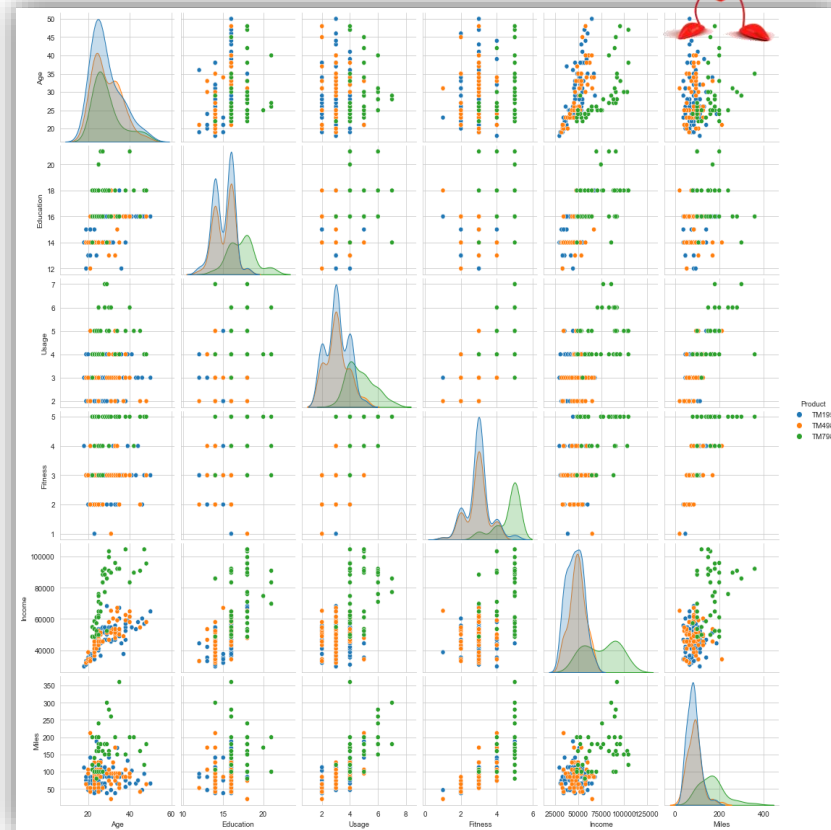
Deeper Look on Age & Income



- From the above chart it is very obvious that products TM195 & TM498 is popular among same segment of customers across Income & Age, that leads that one product is redundant. Either can be retired or enhanced for the segment above.

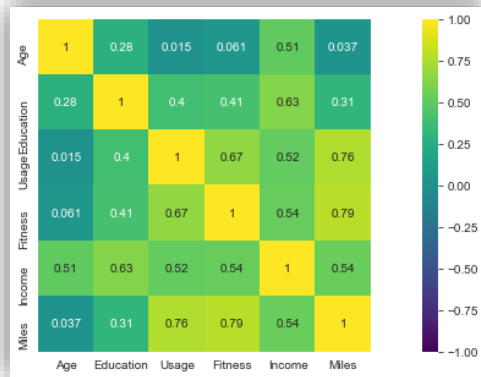
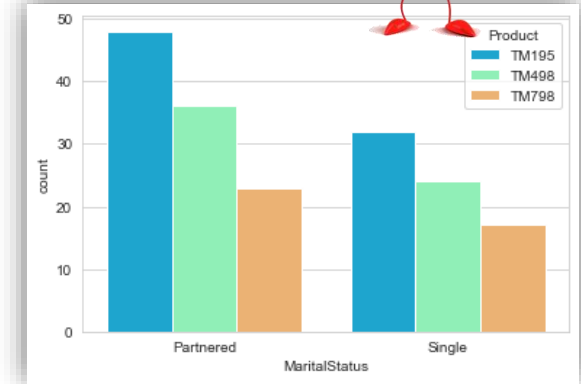
Data Relationship

- Across different variables charts have been plotted to understand the relationship and how the products fair among them.
 - Age & Income have direct relationship.
 - Key observation to note is both products TM195 (Blue) & TM498 (Orange) always exist together, again proving that they are very redundant.
 - TM798 (Green) is more spread across Higher income people and more miles.



Correlation

- Partnered people tend to buy more compared to single. It provides good insight as committed in relationship improves health awareness.



- Heat map chart shows relationship between various numerical values. More +ve value shows higher correlation.
 - Age & Income are highly correlated. It is quite obvious
 - Age & Fitness (need to be fit) also highly correlated.

Business Insights and Recommendations

- Based on the initial analysis of data, TM195 & TM498 looks to be more similar in terms of customer segmentation. Either cheaper product can be retired in lieu of the other one, just improving margins for Business.
- TM798 is targeting very less group of people in the sample compared to other two, so slightly revising cost may be a better bet to increase sales.
- There is a huge gap(48K to 75K) in Income between TM195 group (TM498) & TM798, so introducing a product with slightly better features than lower group would open a new segment.
- Lot of outlier data present in Age for TM798, so a separate analysis targeting on TM798 customers would provide more insight.
- Regarding Data Collection, Occupation, Existing Health Condition would open up a new perspective data, since sedentary Occupation types would be a huge market.
- Promotional campaigns for people owning TM195 to upgrade to TM498 may be an option.
- **Customer Segmentation for Products¶**

TM195 -- Income Range 35K - 60 K, Partnered, Age between 25-35, Education of 15 Yrs.

TM498 -- Income Range 35K - 60 K, Partnered, Age between 25-35, Education of 15 Yrs.

TM798 -- Income Range 58K - 95K, Partnered/Single, Age above 25, Education above 15 yrs.

Questions

- Questions give different Perspective, most of the time result in idea. No Questions means you didn't understand





Happy Learning !

