

All Questionnaire, evaluation criteria questions are answered with EDA in the notebook attached.

Following are some more:

Problem Statement :

The market research team at AeroFit wants to identify the characteristics of the target audience for each type of treadmill offered by the company, to provide a better recommendation of the treadmills to the new customers. The team decides to investigate whether there are differences across the product with respect to customer characteristics.

1. Perform descriptive analytics to create a customer profile for each AeroFit treadmill product by developing appropriate tables and charts.
2. For each AeroFit treadmill product, construct two-way contingency tables and compute all conditional and marginal probabilities along with their insights/impact on the business.

Marginal Probability

KP281	0.444444
KP481	0.333333
KP781	0.222222

Conditional Probabilities

Probability of each product given gender

$P(\text{Male}) : 0.58$
 $P(\text{Female}) : 0.42$

$P(\text{KP781}/\text{Male}) : 0.32$
 $P(\text{KP481}/\text{Male}) : 0.30$
 $P(\text{KP281}/\text{Male}) : 0.38$

$P(\text{KP781}/\text{Female}) : 0.09$
 $P(\text{KP481}/\text{Female}) : 0.38$
 $P(\text{KP281}/\text{Female}) : 0.53$

Probability of each product given MaritalStatus

$P(\text{Single}) : 0.41$
 $P(\text{Partnered}) : 0.59$

$P(\text{KP781/Single}) : 0.23$
 $P(\text{KP481/Single}) : 0.33$
 $P(\text{KP281/Single}) : 0.44$

$P(\text{KP781/Partnered}) : 0.21$
 $P(\text{KP481/Partnered}) : 0.34$
 $P(\text{KP281/Partnered}) : 0.45$

Insights:

- We have the maximum number of young individuals ranging from 22 to 30 years of age. Where maximum number of males are more as compared to females except for the year 38 and 40.
- The major driving factors for the product lineup being Usage, Income, Age, Education.
- People who are married tends to use more that those who are single.
- People who tends to run more than 108 miles a week and are mainly males tends to go for KP781 product.

Recommendations:

- Females tend to use 3 – 4 times a week, also are likely to go for KP481
- Customers who are irregular or are not often using their treadmill tends to buy KP281 and KP481
- The more fit the consumer, having income greater than 60,000 USD. The more inclination towards the product KP781
- People in the age bracket of 24 to 30 are buying the products, should focus more on the bracket of 30 to 40 being decently educated and fairly good income wise

Link : <https://colab.research.google.com/drive/1ruxFm5rs-k-P4ixQBUchu3br5mx-Fxw2>