

Business Case: Aerofit - Descriptive Statistics & Probability

About Aerofit

Aerofit is a leading brand in the field of fitness equipment. Aerofit provides a product range including machines such as treadmills, exercise bikes, gym equipment, and fitness accessories to cater to the needs of all categories of people.

Product Portfolio:

- The KP281 is an entry-level treadmill that sells for \$1,500.
- The KP481 is for mid-level runners that sell for \$1,750.
- The KP781 treadmill is having advanced features that sell for \$2,500.

Business Problem

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.

AEROFIT DATA ANALYSIS

Aerofit is a leading brand in the field of fitness equipment. Aerofit provides a product range including machines such as treadmills, exercise bikes, gym equipment, and fitness accessories to cater to the needs of all categories of people.

We are provided with the data of just 3 of the fitness products sold by Aerofit. All these 3 products are treadmills. Please find the product portfolio given below:

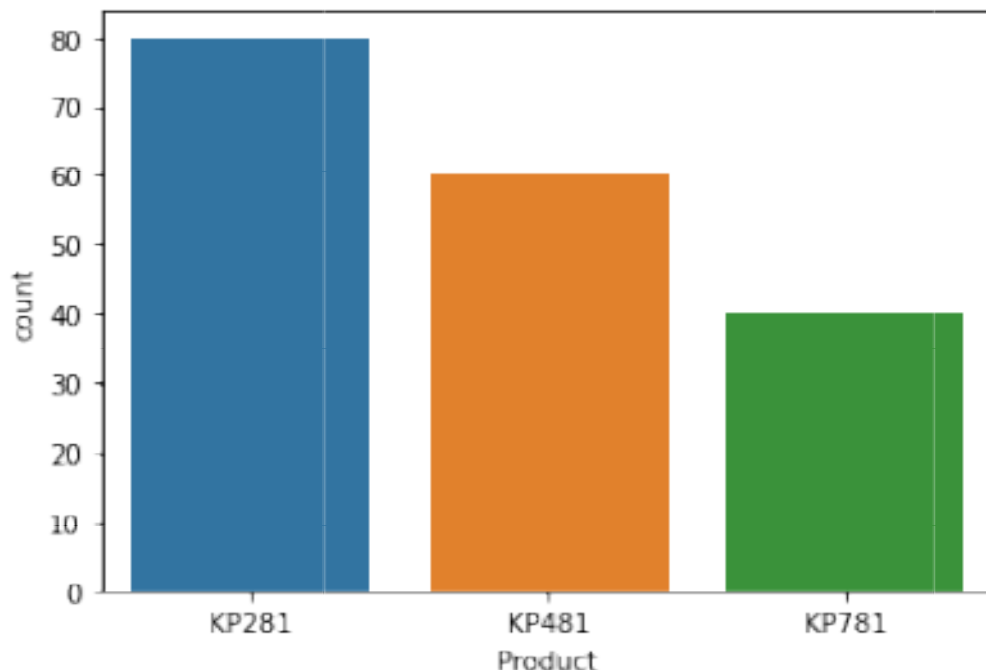
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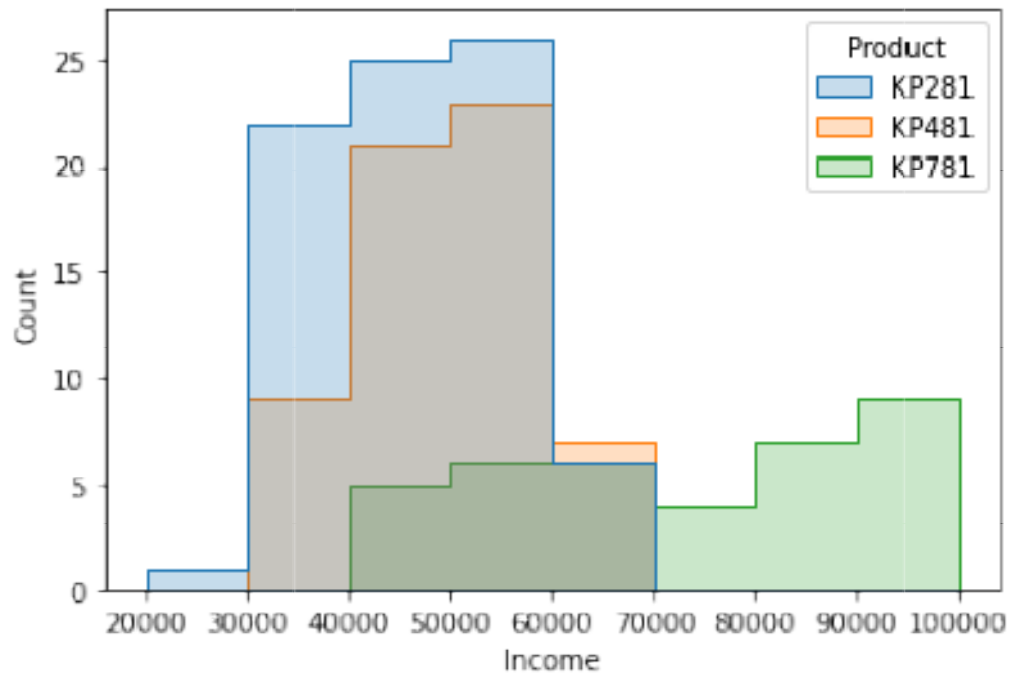
It was a simple data frame which consisted data of individuals who purchased a treadmill from the AeroFit stores during the prior three months. I found the data very clean and properly structured. There were no missing values found.

With the given data, I was able to draft certain observations which can help improve Aerofit's business. Please find them given below:

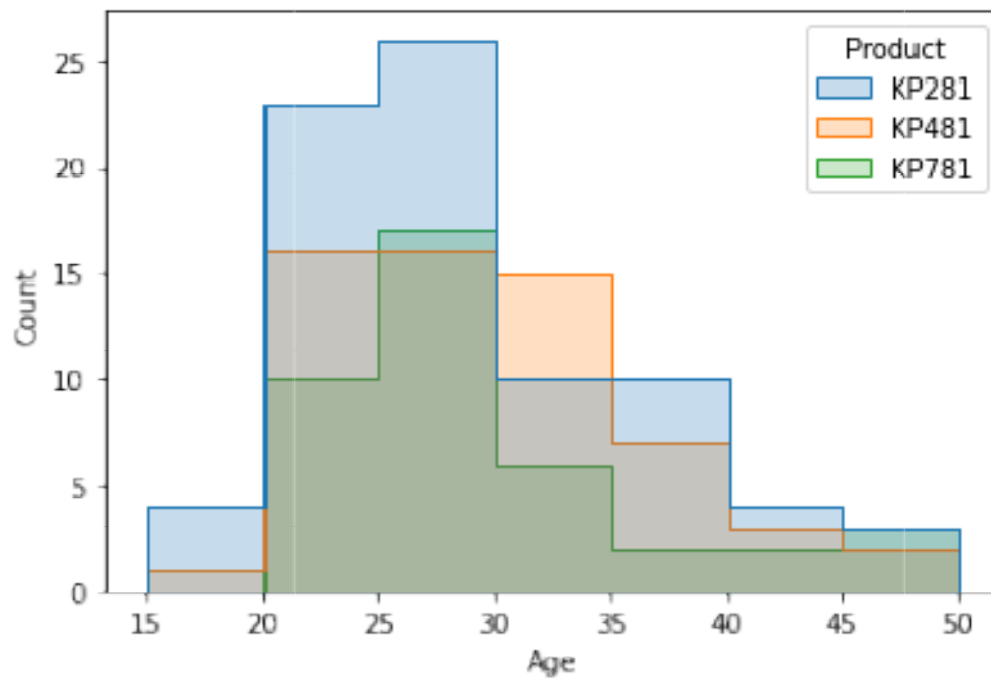
- The graph clearly demonstrates that due to lower price of KP281, its sales are comparatively higher. Also, with the increasing price, the sales count of products keep decreasing. Even though we do not have features data of the 3 products, we can still easily say that greater the price more the features. Using these additional features as a stand out point, we can try matching the sales count of KP481 and KP781 with KP281.



- Individual's Income plays a very important role in product purchase. From the graph below, we can see that, KP281 is the highest sold treadmill among the individuals with salaries ranging from 30k to 60k. KP481 is almost close to KP281 in the range 40k to 60k. In spite of higher cost of KP481, people are still buying it and the count is almost close to KP281. If we can take a risk of stopping KP281 production and continue producing more of KP481, we can make more revenue. Also, between salaries ranging from 40k to 60k, people are still buying KP781, in spite of having higher cost. There must be some important feature in this product. We can make a huge difference in our sales revenue if KP781 sales count meets KP481 sales count.



- Fitness wise, I came to know that Men are more fitter as compared to Women. After calculating the probabilities, we can see that, from '3' level, Men are comparatively fitter than Women. Total treadmill sales among Men is 104 and Women is 76. It might be a risk, but by displaying this graph at a media outlet we can bring in more sales of treadmills among Women too. Also, I could see that single people are more fitter as compared to married or partnered. We can take this data and bring in more sales by selling to partnered people.
- By looking at the graph given below, we can say that among 25-30 age group, sales are highest with KP281 topping the chart. What's surprising is KP781, being the priciest one is the 2nd highest. Individuals in this age group take fitness seriously and understand the importance of extra features. We can use important piece of data to increase the sales of KP781.



- If we consider Miles run and individual's weekly treadmill usage, KP281 is clearly dominating. It's not like, other two are trailing way behind. Even they are giving a tough competition. If we try to increase the sales of other two, there will a huge increase in annual revenue.

To whoever reads this, I hope my insights from this case study were meaningful.

Thank you,
Krishna