

## Recommendation's

### Based on outliers:

1.Age excluding outliers lie between year 23 and year 50 so we can focus more on this age range .

Similarly, for income range is between \$37521 and \$104581 so we can focus on these people.

Likewise, for Education range is between year 12 and 21 so we can focus here too.

2.More precisely, we clipped the data between 5 and 95 percentile and got the various range for various columns giving significant insights:

For age, 20 to 43 is much to be focused on.

For education, 14 to 18, for usage 2 to 5, for miles 47 to 200, for Income \$34053 to \$90948.

### Based on multiple plots:

3.Scatter plot of product by age shows that for product KP281, much dense from age 18 to age 43.

For product KP481, much dense from age 20 to 36 and for product KP781, much dense from age 20 to 35. So, we can increase quantity of premium treadmills for this age group.

4.Scatter plot of product by education shows that for product KP281 and KP481 it ranges from 12 to 18 while for product KP781 it ranges from 14 and beyond 20.

5.Scatter plot of Product by usage shows that KP281 and for KP481 usage per week lies between 2 to 5 while for KP781 it lies from 3 to 7.

6.Scatter plot of Gender by miles shows that male mile's coverage densely lies from 48 to 158 while for female it lies from 50 to 147.

7. Count plot between fitness by product shows, for product KP281, KP481 most frequent is fitness 3, so we clearly see that we need to increase reach of our product to rest of fitness level peoples.

Likewise for product KP781, fitness level 5 people are more frequent so we need to reach to other fitness level peoples too.

8. Count plot between product by marital status shows that KP281 is more prone to use in both in single and partnered peoples so we can increase reach of rest of the products.

9. Count plot between product and gender shows that KP281 is more frequent but an interesting insight is that in females KP781 is very least used so it is desirable to increase reach of this product here.

10. Count plot between product and age-group shows that people from age group 39 to 43 uses comparatively very less treadmills and it is desirable to increase reach of products here too.

### Based on marginal probabilities:

11. marginal probability for product given gender shows that percentage of female using product KP781 is 3 % so we can increase reach of this product here.

12. marginal probability for product given education shows that percentage of education given product for education 12 and 13 is very low i.e. 1.2% and 2.7% respectively and similarly for education 15,18,21 .so it is desirable to increase reach of products here.

13. marginal probability for product given Age-group shows that percentage of age group for 39-43 and 44-48 using treadmills are nearly 5 and 4% respectively which is again very low and we need to focus here too.

**Based on correlation heatmap:**

14. corr. Between age and usage, miles and fitness, shows poor Corr although there is an increase among them. So, it is desirable to penetrate these areas.

15. corr. Between Education and Income is 0.63 which is significantly high. Likewise, corr. among usage and fitness and miles is very high.

16. Corr. Between income and fitness is moderate 0.54 where we can penetrate even more.