Erin Kane

MSDS670 Data Visualization – Mid-Term Assignment

Koenig

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AVON Fitness Machines is a trending fitness company out of India. AVON has a vision “To inspire a powerful fitness revolution. Our goal is to make fitness and health a part of everyday life. We wish to empower the youth with our range of world-class equipment.” AVON’s mission; “We are committed to changing the lives of the youth by offering them powerful fitness equipment. We endeavor to establish a relationship based on trust.” These two statements on the homepage of AVONfitnessmachines.com make AVON treadmills agreeable to look into as a viable option for a new treadmill.

Consumers looking to purchase a new AVON treadmill will be pleased by AVON’s offer of basic, intermediate, and high-performance models. While this dataset is not my own, I found the process helpful as this circumstance is a real case scenario of personal best practices when investigating new exercise equipment for a home gym.

In this dataset, CardioGoodFitness analyzes data from treadmill purchases at its retail stores in the last three months. The team identifies the following customer variables to study.

A picture containing sport, exercise device, exercise equipment, exercise machine

Description automatically generatedConsumers were investigating data for the best-in-class AVON Treadmill between their basic model TM195, intermediate TM498, and High-Performance TM798, for Age range, Gender, Income, and Fitness level.

*Figure 1 - AVON Treadmills product images*

The methodology to understanding the data better was to look at all the values and fill any invalid data with values that would assist in interpreting the data. First, I gathered all the data and made sure that there were no missing values. I broke out my visuals based on the three different models. I was looking at Gender, Age, Fitness Level, and Average Annual Income. I thought using these factors would provide a good idea into the typical buyer for those categories to leverage where I would categorize myself. I evaluated data with Excel, using pivot tables, add touches of statistical formulas from the following data.

|  |  |
| --- | --- |
| Feature | Possible Values |
| Product | TM195, TM498, TM798 |
| Gender | Female, Male |
| Age | In years from 18 to 50 |
| Education | In years |
| Martial Status | Single or Partnered |
| Income | Annual Income in $ |
| Miles | The average number of miles the consumer expects to walk or run each week |
| Fitness Level | Self-rated fitness level on a scale of 1-5, where 1 is poor shape, and 5 is excellent shape. |

The results the data yielded are:

*Figure 2 – Consumer Average Income by Treadmill Model Purchase*

Figure 2 shows

* $75K per year opted for the high-performance model.
* $46 -$49K per year split between the base and the intermediate model.
* ~$30K per year difference between those who bought the base/intermediate vs. high-performance models

*Figure 3 – Density of User per Fitness Level*

Figure 3 provides insight when navigating the value of each model based on fitness level:

* Intermediate, Fitness Level 3, shows an abundant number of buyers in both the low and mid-tier class treadmill
* Fitness Level 5 indicates the lowest and highest tier treadmill purchased.
* According to Level 3 users, the value is purchased at the lowest tier.

Lastly, I evaluated the features of Gender and Age and compared the model purchase.

*Figure 4 – Treadmill Model by Gender and Age of Consumer*

* Female and Male buyers were evenly proportioned with the base model.
* The Base Model, TM195, swept the competition with 40 more sold than the middle tier.
* 33 Males purchased the high-performance model, while only seven females did.
* The age range of 33-40 (my age range) was similar.

To conclude; after investigating data for the best-in-class AVON Treadmill between their basic model TM195, intermediate TM498, and High-Performance TM798, for Age range, Income, and Fitness level; I have concluded that most purchased at my fitness level, age range, and income level. I would be best suited for the TM798 model. The high-performance model will best suit my needs by way of annual Income, age, and overall value, as I continue to grow from using the product.

References:

About - avon fitness machines - avon fitness machines. (n.d.). [*https://avonfitnessmachines.com/about*](https://avonfitnessmachines.com/about)

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