



## TREADMILL 2 (TM498)

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Customer Profile: Treadmill 2	
Total sold	60
Male	31
Female	29
Singles	24
Partnered	36
avg usage	3.02
avg miles	88
avg fit rating	3
avg income	\$ 48,973.65
income median	\$ 49,459.50

The difference was slight between the amount of males and females that purchased TM498. Again there was not a significant variation between gender and the relationships thereof, CV was 15%. The average income of this group was about \$49,000, and a majority of the incomes fell between about \$40,000 to \$58,000.

An improvement of the consumer income from treadmill 1 by about \$3,000. **Partnered males bought TM498 the most.** Cardio sold 60 of TM498. **The 2<sup>nd</sup> most sold**, and 20% less than treadmill 1. The average miles traveled (88), and the majority of miles ran between 55 and 121, says that although TM498 sold less and expected use was only slightly more than TM195. Statistically, it is possible that this is only true because of the fact that there were less of TM498 sold than TM195.

95% of Miles ran on T1 fall between		
21	&	154

S of miles                      33

95% of incomes for T1 fall between		
\$ 31,665.67	&	\$ 66,281.63

S of income                      8654

## TREADMILL 3 (TM798)

Customer Profile: Treadmill 3	
Total sold	42
Male	33
Female	7
Singles	17
Partnered	23
avg usage	4.66
avg miles	167
avg fit rating	5
avg income	\$ 75,441.58
income median	\$ 76,568.50

Evaluation of TM798 showed a dramatic difference in the demographics sold to, **79% were Males**. The CV was 37%. TM798 **sold the least** of the treadmills (40) 50% less than Treadmill 1. However, average income of this group is far greater, about \$29,000 more than the mean income of treadmill 1 customers, and a majority of incomes lies between about \$57,000 and \$94,000. The average expected miles traveled is 167 and the majority of miles expected to be ran/walked lie between 107 and 227, which tell us that **TM798 receives the most expected use** after purchase out of the three treadmills. Giving explanation to the average fitness rating given of five. In fact, not a single customer of treadmill three gave themselves a fitness rating that was below a three. An astounding 73% of customers gave a fitness rating to themselves of 5! Which goes to show that the consumers of treadmill 3 were serious about their use of the machine when making their purchase.

95% of Miles ran on T1 fall between		
47	&	287

S of miles                      60

95% of incomes for T1 fall between		
\$ 38,429.90	&	\$ 112,453.25

## CONCLUSION

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The main types of data looked at were the average and majority incomes of the consumers. As well as the actual use each treadmill received after purchase. The purpose of focusing on this data was to depict to *Cardio* who its products reach the most and also who its product affects the most. **Treadmill one is sought the most and used the least, and Treadmill 3, is sought the least but used the most.**

Management at *Cardio* may want to look at this information as TM195 being useful for acquiring capital, and TM798 useful for contributing to a fitness mission statement. It would be beneficial in both aspects of capital and fitness promotion could either A. sell more of TM 7098 or B. get TM195 to be used more. A positive TM195 has over TM498 is that there were almost 20% of users, opposed to 13% for treadmill 2, that ran more than 107 miles, which is the bottom half of the majority treadmill 3 users ran. This is saying that **20% of those that purchased TM195 used it just as much as if it were a TM498.**

As a company, if we are to change what products we sell we must answer ourselves if we want to sell low priced quantity of goods which may be the more profitable route, or focus our attention on our higher end products who the consumers of use more. With the latter decision, *Cardio Fitness* may have the option in the future to promote its goods as showing proven results to entice more buyers.

## CHAPTER 12 CASE STUDY:

### **Review of Triangle Leasing Agents Proposal for Sunflower Clothing**

The mall is saying that their mall only builds new locations in places where people have large disposable incomes, but when it comes to malls people drive from everywhere. People of all sorts of disposable incomes come to shop at malls, as they are shopping hubs with a wide variety of stores. Besides, building a mall solely based on the decision of there being large disposable income in the area is unwise. There are likely many other variables that Triangle has deemed suitable for building a mall that they are not telling us. Like the amount of clothing retailers they can secure before building. What we have here is a mall that is trying to reel in potential retail stores for its new location. Triangle seeks to sell us on their alluring concepts, and then provide support with a trend they noticed in our stores. Which we will see is invalid. I do not advise moving forward with a decision until we can cross-reference the data provided with the profitability of each Sunflower location to determine the truth behind what makes our stores successful. In fact, we should also evaluate if our locations in malls are indeed making us more money or not. Triangle has only evaluated 14 of our store locations. Seems to me as though Triangle could have been particular in their selection process. Likely choosing only locations that support their notion on which they wish to sell us on. Even then the way in which Triangle presents their data is poor. No graphs and in seemingly random order with no reference as to why they arranged the stores they analyzed in the fashion they did. I find the sole use of mean disposable income, as a means of predicting sales is good, but ultimately not enough to invest in a new location wisely. I do not advise accepting the claim of a potential 10.6 million profit Triangle has made. Despite them offering us a position in their mall, we at Sunflower should find out ourselves if a location in this mall is desirable. Only then, we should accept the lease offered to us. As pointed out already by Triangle the coefficient(0.193) of the variable(disposable income) used to predict sales is positive, but in actuality I find the regression analysis to be invalid which you will see in Figures A, and B. In Figure A, you will notice positive linearity in the prediction line, and even the correct coefficient in the prediction line's equation bordered in green. However, upon evaluating whether the regression analysis is valid, the regression failed the equal variance test, which is what you will notice in Figure B. With the failed equal variance test, the predictive regression that disposable incomes lead to increases sales is invalid.

**Further comments:**

If the decision to go ahead with leasing a space in this new mall is made. Additional factors to address could be to ask more about why Triangle feels our companies' goals fit “naturally” as they put it.

## CHAPTER 13 CASE STUDY: IN-STORE PLACEMENTS Review

It appears that once again a company wishes to imply causation from correlation. There is no reason to believe in OMNI gaps claims. At least not totally.

The two independent variables of shelf location and coupon dispensers are not shown to violate any of the regression tests applied. Tests applied were that of linearity and equal variance.

The placement company claims that the variables of shelf placement and the presence of coupon dispensers increase sales of the OMNI power bars. However, after applying my own analysis I found the presence of coupon dispensers to be negligible in its effect to increase sales, but product placement location of the OMNI bars in the grocery store does have more significance.

When deciding whether to renegotiate the marketing contract be weary of a bias held on coupon dispensers. Especially if IN-STORE placement company gets something extra out coupon dispensers being used. This is because during my analysis I found the coupon dispenser independent variable to hold the lowest explanation of variation in the number of OMNI bars sold.

Also IN-STORE say they are happy to report a positive correlation in coupon dispensers and bar sales. In fact, I am happy to announce a finding of a NEGATIVE correlation between coupon dispenser and bar sales. Please see figure A and notice the slope of the equation bordered in light blue for the plotted line.

Notes on the analysis:

The data used for coupon dispensers were that of dummy variables. During the graphing process a number "1" indicated a Yes for there being a coupon dispenser, and a "0" indicated a No for there not being a coupon dispenser.

FIGURE A

In-Store coupon dispensers should not be in any grocery stores. The fact that IN-STORE was incapable of finding this should discredit their ability to accurately provide us with marketing advice.

As for the placement of the products in the grocery stores. IN-PLACE was correct in their evaluation of there being a positive correlation as you will see in Figure B. Notice from this figure that what it is showing is that as OMNI bars are placed in the produce section of grocery stores, as opposed to the beverage sections, the sales of the bars goes up.

## FIGURE B

This Figure B is stating that the coefficient of correlation is 911.3. Meaning that as placement of OMNI bars in a single grocery store is put in the produce section sales of bars will increase by about 911. Based on this finding it would be wise to move all product placements of OMNI bars to the produce sections from the beverage sections in grocery stores.

An important thing to note is that what IN-STORE finds, "most striking" is that the only store with sales greater than 4000, and only 200 spent on promotion is one with a coupon dispenser. However, there remains to the fact that this store had our OMNI bars priced at the lowest price. Which, price, also being the independent variable that holds the strongest correlation in increased OMNI bar sales as you will see in Figure C, and had its bars placement in the produce section where it is best to have them.

## FIGURE C

What you will see in Figure C, is a visual expression of the increase had in sales as price decreases. The sales of OMNI bars will increase by about 57 bars for every one-unit decrease in price. Or as the equation states, as price increases by one unit the amount of bars sold will decrease by about 57 bars. The coefficient of determination for price is 50%. This means it is highly valid in this analysis. This goes along perfectly with the Law of Demand. However, more information about costs and revenue of OMNI bars is required to determine our optimal choice of production.