Problem : Amazon is interested in knowing whether the satisfaction with their reward program differs by gender and household income.

Solution: In this problem, Satisfaction with their reward program is the **dependent variable** and Gender (S1) and Household income (S8) is the **independent variables.**

Since we have two independent and one dependent variables, we will be doing the **Two-way ANOVA test,**

Tests of Between-Subjects Effects

Dependent Variable: Amazon Prime (For the following programs that you are enrolled in, how satisfied are you with the value of the rewards?)

| Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	13.871[a]	13	1.067	1.762	.044
Intercept	2840.831	1	2840.831	4690.951	.000
s1	2.834	1	2.834	4.680	.031
s8	5.247	6	.874	1.444	.194
s1 * s8	5.184	6	.864	1.427	.200
Error	1315.965	2173	.606		
Total	5798.000	2187			
Corrected Total	1329.835	2186			

a. R Squared = .010 (Adjusted R Squared = .005)

From the results of ANOVA test, we can see that the **interaction effect (S1*S8) is not significant** with since p = 0.200 (i.e p > 0.01) and hence we consider only the overall effect with p = 0.044 (i.e p<0.05) which is significant.

Furthermore, we can see that **S1 (Gender) is significant** since p = 0.031 (i.e p<0.05) whereas **S8 (Household income) is not significant** since p = 0.194 (p>0.05)

We can say that independent variables have no interaction between them, but they affect the dependent variable separately, and the amongst the independent variables, Gender significantly affects the dependent variable and Household income has no significant effect on the dependent variable.

Estimated Marginal Means of Amazon Prime (For the following programs that you are enrolled in, how satisfied are you with the value of the rewards?)
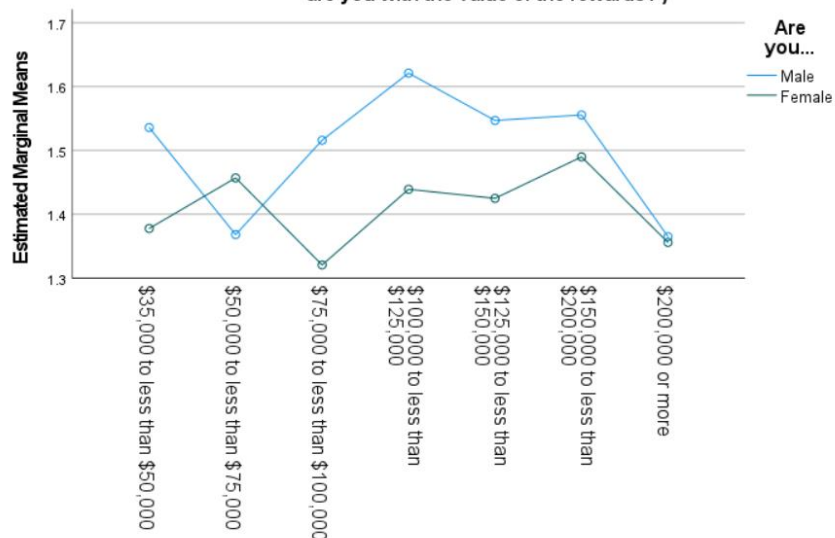
When analysed the trend of Household income vs satisfaction for Male and Female population, and we found the **Female population is generally more satisfied than the Male population.** Since, Labels in satisfaction level for Amazon price (q21a_3) label 1 is very satisfied and label 5 is very dissatisfied.