

## Scoring GenIQ Models with Excel

1. **Prepare** the dataset for GenIQ in an Excel format (xls).
2. **Run** GenIQ Model Software as usual, using the Excel dataset.
3. When you are satisfied with the evolved GenIQ Model, entire tree or specific branch, **click** the “PAUSE” button.
  - a. Copy by pressing “Print Screen” the GenIQ tree/branch, and then paste into the Power Point application, which should have been open at the start of the data input process/window. Label the GenIQ tree/branch, as you will likely find other interesting predictive structures; if not, you will certainly not have paper-stat trail as to which structure is which.
4. **Click** the “VIEW MODELS” button. Small-text options will appear above the larger rectangular option buttons. The last one, furthest to the right is “Export.”
5. **Click** “Export.” A drop-down menu appears.
6. **Click** “Export as shown.” A pop-up window appears at the upper left corner.
7. **Click** the radial button “VB for Excel.” Note: “APPEND TO FILE” is checked “on” by default. Until you become acquainted with this procedure, Click off this option. Later, you would want this feature “on” when you are testing several GenIQ Models. The feature allows you to annotate the code (in the Notepad which pops up, in the next step) so you would not lose track of which models performed better than others.
8. **Click** “OK” button. A pop-up window appears, indicating “The VB code for Excel has been written to the text file name and its path of the **GenIQ Model Equation Code**” (as per step 3). The path is the same as where the Excel dataset resides. Click “OK.” The Notepad opens with the code of the model selected in step 3.
9. **Right-click** in the middle of the Notepad. **Choose** “Select all.” **Right-click** again in the middle of the Notepad. **Choose** “Copy.”
  - a. Copy by pressing “Print Screen” the GenIQ tree/branch code, and then paste into the Power Point application. Label the GenIQ tree/branch code, as you will likely find other interesting predictive structures; if not, you will certainly not have paper-stat trail as to which structure is which.
10. **Close** down the Notepad.
11. **Launch** Excel, and then **Open** the Excel dataset in use.
12. **Click** “Tools” > “Macro” > “Visual Basic Editor.”
13. **Click** “Insert” > “Module.” A “Module” window appears.
14. In the Module window, **Right-click** and **choose** “Paste.” You have now imported the GenIQ Model “Equation” Code of step 8.
15. **Click** small-text option “Run” > “Run Sub/User Form.” Wait until the Excel macro processing is complete (i.e., the scoring of the GenIQ Model is finished).

16. **Select** the Excel sheet of the dataset at hand. New columns are added to the end of the sheet.

a. Two columns for a GenIQ Response Model:

- i. The first appended column is the GenIQ Model Score, **GenIQvar**. Recall, the GenIQ score is a unitless number: the larger its value the greater the responsiveness for a response model, and greater the contribution of profit for a profit model.
- ii. The second appended column is the GenIQvar converted into a probability, GenIQvar\_Prob. See image below.

	I	J	K
<b>response</b>		GenIQvar	GenIQvar_Prob
N		0	0.026980047
N		-1	0.014400721
N		0	0.026980047
N		0	0.026980047
N		-1	0.014400721

- iii. If you intend to append additional GenIQ trees/branches, then rename the two new GenIQ columns. I use the naming with “\_n”

	I	J	K
<b>response</b>		GenIQvar_1	GenIQvar_1Prob
N		0	0.026980047
N		-1	0.014400721
N		0	0.026980047
N		0	0.026980047
N		-1	0.014400721

iv. I appended a second GenIQ tree/branch. See image below.

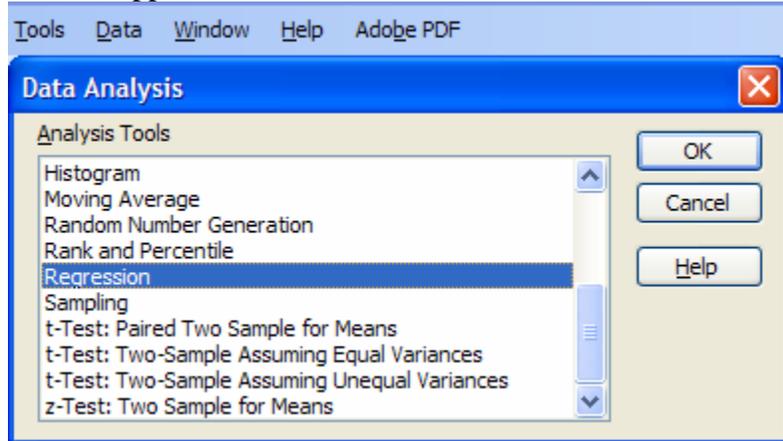
I	J	K	L	M
<b>response</b>	GenIQvar_1	GenIQvar_1Prob	GenIQvar	GenIQvar_Prob
N	0	0.026980047	0	0.035611177
N	0	0.026980047	0	0.035611177
N	0	0.026980047	0	0.035611177
N	0	0.026980047	0	0.035611177
N	0	0.026980047	-1	0.012519566
N	-1	0.014400721	-1	0.012519566
N	0	0.026980047	-1	0.012519566
N	0	0.026980047	-1	0.012519566
N	-1	0.014400721	-1	0.012519566

v. The second pair of new GenIQ columns must be renamed; I use \_2. See image below.

I	J	K	L	M
<b>response</b>	GenIQvar_1	GenIQvar_1Prob	GenIQvar_2	GenIQvar_2Prob
N	0	0.026980047	0	0.035611177
N	0	0.026980047	0	0.035611177
N	0	0.026980047	0	0.035611177
N	0	0.026980047	0	0.035611177
N	0	0.026980047	-1	0.012519566
N	-1	0.014400721	-1	0.012519566
N	0	0.026980047	-1	0.012519566
N	0	0.026980047	-1	0.012519566
N	-1	0.014400721	-1	0.012519566

- b. One column for a Profit GenIQ Model:
  - i. Simply GenIQvar is added.
  - ii. If you intent to append additional GenIQ trees/branches then follow the steps stated above for a GenIQ Response Model.
  - iii. Note: The GenIQvar Profit score is not converted into a predicted Profit score. This can be done within Excel itself.

1. **Click** “Tools” > “Data Analysis.” A Data Analysis pop-up window appears.



2. **Select** “Regression,” and **Click** “OK.”
3. **Assign** for the Y variable the target Profit variable used in the GenIQ Model run.
4. **Assign** for the X variable the (final) GenIQvar exported.
5. **Click** “OK.” The following regression output is produced in a new sheet, from the desired variable GenIQ\_Profit variable is estimated.

	A	B	C	D
1	SUMMARY OUTPUT			
2				
3	<i>Regression Statistics</i>			
4	Multiple R	0.959993932		
5	R Square	0.92158835		
6	Adjusted R Square	0.911786894		
7	Standard Error	0.899233083		
8	Observations	10		
9				
10	ANOVA			
11		<i>df</i>	<i>SS</i>	<i>MS</i>
12	Regression	1	76.0310389	76.0310389
13	Residual	8	6.468961099	0.808620137
14	Total	9	82.5	
15				
16		<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>
17	Intercept	-4.677148847	1.087389644	-4.301263003
18	GenIQvar	0.148788726	0.015344291	9.696682733
19				
20				
21	GenIQ_Profit = -4.677148847 +0.148788726*GenIQvar			
22				

17. **Save** the Excel sheet with the newly appended GenIQ Model scores.
18. **Proceed** as your desire dictates.