




How To Create a Simple Choice Simulator

Problem

A choice-based conjoint study (discrete choice experiment) has been conducted. There is a need to simulate scenarios of interest. This example, from Eggs .Q, shows how create a simple choice simulator for the MNL model.

Steps to solve

1. Open C:\Program Files\Q\Examples\Eggs.Q
2. Select Choice-based Conjoint in the blue drop-down menu
3. Press  to place the contents of the table in the clipboard
4. Create a new workbook in Excel
5. Select cell A1 of Sheet 1 and Paste (**Ctrl-V**)
6. In cells G4:I4 enter Alternative A, Alternative B and Alternative C
7. In cells F5:F11 enter Weight, Organic, Charity, Quality, Uniformity, Feed and Price
8. Create a drop-down for *Weight* in cell G5 as follows:
 - a. Select the cell.
 - b. From the **Data** menu (or ribbon) select **Data Validation**.
 - c. In the **Allow** drop-down select **List**.
 - d. In the **Source** drop-down select the range of cells A6:A9 (i.e., the different weights).
 - e. Press **OK**.
 - f. The cell should now contain its own drop-down menu; select the first thing in the menu.
9. Create drop-downs for all the remaining attributes, except for price, in cells G6:G10, repeating the steps followed to construct the *weight* drop-down menu.
10. In cell G11 type: \$3.00
11. Copy and paste the contents of cells F5:F11 to F17:F23
12. Enter Share in cell F12
13. Enter Total in cell F24
14. In each of the following cells, enter the following formulas:

- a. $G17: =INDEX(\$B\$6:\$B\$9, MATCH(G5, \$A\$6:\$A\$9, 0))$
- b. $G18: =INDEX(\$B\$10:\$B\$11, MATCH(G6, \$A\$10:\$A\$11, 0))$
- c. $G19: =INDEX(\$B\$12:\$B\$13, MATCH(G7, \$A\$12:\$A\$13, 0))$
- d. $G20: =INDEX(\$B\$14:\$B\$16, MATCH(G8, \$A\$14:\$A\$16, 0))$
- e. $G21: =INDEX(\$B\$17:\$B\$18, MATCH(G9, \$A\$17:\$A\$18, 0))$
- f. $G22: =INDEX(\$B\$19:\$B\$21, MATCH(G10, \$A\$19:\$A\$21, 0))$
- g. $G23: =G11 * \$B\22
- h. $G24: =SUM(G17:G23)$
- i. $G25: =exp(G24)$
- j. $G12: =G25 / \$F\25

15. Format cell G12 as a percentage

16. Copy and paste the contents of cells G5 : G25 to G5 : I25

17. In cell F25 enter =SUM(G25 : I25)

18. Check that your screen is as below:

	A	B	C	D	E	F	G	H	I	J	K
1	Choices										
2		Coefficient									
3	A	0									
4	B	0.072131					Alternative	Alternative	Alternative C		
5	C	-0.00888				Weight	55g	55g	55g		
6	55g	0				Organic	BLANK	BLANK	BLANK		
7	60g	0.43885				Charity	BLANK	BLANK	BLANK		
8	65g	0.552569				Quality	Fresh Eggs	Fresh Eggs	Fresh Eggs (Caged)		
9	70g	0.762718				Uniformity	All eggs appear the same	All eggs appear the same	All eggs appear the same		
10	BLANK	0				Feed	BLANK	BLANK	BLANK		
11	Antibiotic and hormone free	0.235252				Price	\$3.00	\$3.00	\$3.00		
12	BLANK	0				Share	33%	33%	33%		
13	10% of Revenue donated to RSPCA	0.319099									
14	Fresh Eggs (Caged)	0									
15	Barn Raised	0.741337									
16	Free Range	1.440094									
17	All eggs appear the same	0				Weight	0	0	0		
18	Some eggs appear different (e.g. Shell Colour)	0.027284				Organic	0	0	0		
19	BLANK	0				Charity	0	0	0		
20	Fed on grain and fish (high in Omega)	0.161681				Quality	0	0	0		
21	Fed only on vegetables	-0.01519				Uniformity	0	0	0		
22	Price	-0.80294				Feed	0	0	0		
23	Total sample; Unweighted; base n = 380					Price	-2.40882	-2.40882	-2.40882		
24						Total	-2.40882	-2.40882	-2.40882		
25							0.2697652	0.089922	0.089922	0.089922	

19. Cells F4 : I12 contain your simulator. Currently, it shows that three identical packs of eggs each get the same market share (33%). Change the price (by entering new prices in the cells) and attribute levels (using the drop-down menus you have created) to understand the impact on preference share.

Additional reading

Online training: Multivariate Techniques : Experiments : Tables of Experiments. Terms shown in italics and bold can be found in the index of the *Q Reference Manual*, the *Q Quick Start Manual* and via the **Help** menu within Q.

What to do if the problem is not solved

If these instructions are insufficient, please email us (**Help | Email Support...**) with a detailed description of what in the instructions is not working for you and we will either provide you with more comprehensive instructions, or, upon your request, we can do the analysis for you in your file (fees apply) .