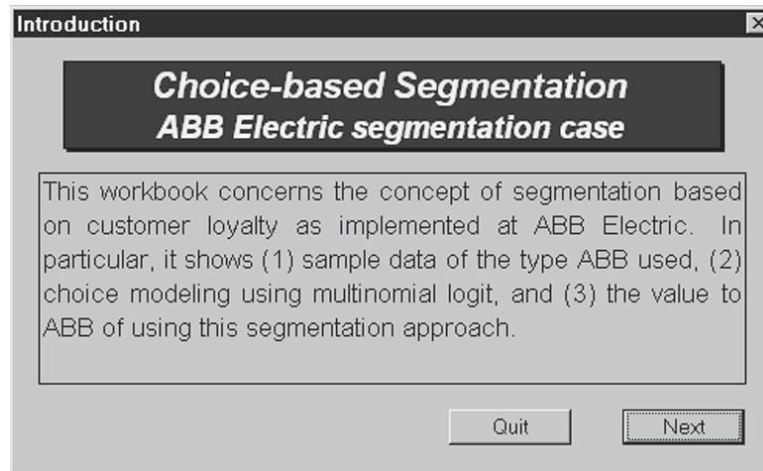


4. TUTORIAL FOR CHOICE-BASED SEGMENTATION (ABB.xls)

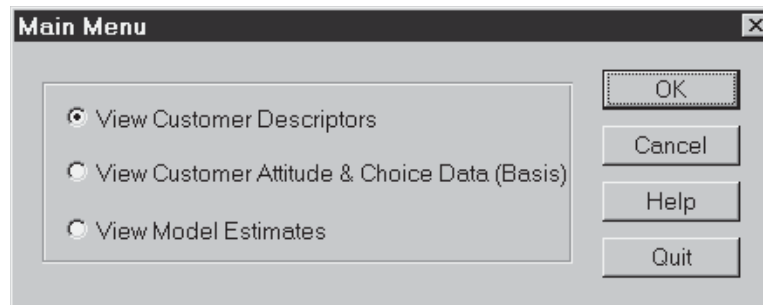
CASE: ABB ELECTRIC SEGMENTATION CASE, P. 113

The ABB spreadsheet illustrates the use of choice-based segmentation as applied at ABB Electric. It is designed to accompany the ABB Electric segmentation case.

On the **Model** menu, select **Choice-based Segmentation** (abb.xls) to see the **Introduction** screen.



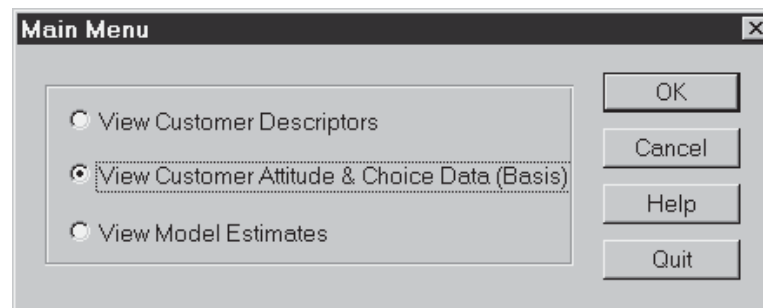
Click **Next** to get to the **Main Menu**.



On the **Main Menu** select **View Customer Descriptors** and click **OK**. This will bring you to the main worksheet containing customer descriptor data on eighty-eight customer firms.

	A	B	C	D	E	F	G	H	I	J
1	Customer Demographics (Descriptors)									
2										
3		Supplier	Pref. Supplier	With Respect to ABB:					Cases	
4	A:	ABB	18	Loyal	0				Misclassified:	
5	B:	GE	23	Competitive	0				0	
6	C:	Westingh.	26	Switchable	0					
7	D:	McGraw-E.	21	Lost	0					
8		Sum	88							
9										
10		Ann. Purchase		Firm	Estimated Purchase Probabilities					
11	Customer	Volume (\$ K)	District	Chosen	A(ABB)	Firm B	Firm C	Firm D	Type	Misclassified
12	1	\$781	1	B						
13	2	\$627	1	D						
14	3	\$643	2	A						
15	4	\$562	3	D						
16	5	\$489	3	C						
17	6	\$233	1	B						
18	7	\$664	3	D						
19	8	\$767	3	D						
20	9	\$467	1	D						
21	10	\$844	1	B						
22	11	\$1,722	3	A						

Click the **Sort Data** button to unprotect the spreadsheet if you want to use Excel's sort function on this database. Sorting can be helpful for answering the first question in the exercise.



Next go to the **Model Menu**, choose **Main Menu**, and then select **View Customer Attitude and Choice Data** to view a list of the ratings of the suppliers by the same eighty-eight customers whose descriptor information you saw earlier.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1																		
2		Customer Attitude & Choice Data (Basis)																
3		Customer ID	Purch. Vol.	District	Choice	Price	Energy_Loss	Maintenance	Warranty	Spare_Parts	Ease_Install	Prob_Solv	Quality	D1	D2	D3		
4	A	1	\$781	1	0	6	6	7	6	6	5	7	5	1	0	0		
5	B				1	6	6	6	7	9	9	7	5	0	1	0		
6	C				0	6	5	7	5	3	4	7	6	0	0	1		
7	D				0	5	5	6	7	8	2	6	5	0	0	0		
8	A	2	\$627	1	0	3	4	5	4	4	5	6	4	1	0	0		
9	B				0	3	4	5	4	7	3	5	5	0	1	0		
10	C				0	4	5	5	5	5	7	6	4	0	0	1		
11	D				1	4	5	6	5	4	5	5	6	0	0	0		
12	A	3	\$643	2	1	6	6	7	7	6	7	7	6	1	0	0		
13	B				0	5	6	7	7	5	6	8	6	0	1	0		
14	C				0	5	6	7	5	5	8	6	5	0	0	1		
15	D				0	6	5	5	4	2	8	6	5	0	0	0		
16	A	4	\$562	3	0	6	6	5	5	4	5	5	5	1	0	0		
17	B				0	5	5	6	5	4	6	7	5	0	1	0		
18	C				0	4	4	5	4	6	7	5	3	0	0	1		
19	D				1	4	4	6	7	7	8	7	5	0	0	0		

Click the **Run Model** button to develop choice-model estimates from the selected data. A dialog box will prompt you to specify the data range for the choice model. The column titled “Choice” contains data values that are either 0 or 1. A “1” means that the customer chose the corresponding supplier (A, B, C, or D).

Logit Estimation

Please select the data for Choice Segmentation Model.
Include Variable titles and customer information, but not data that appears in green color in the spreadsheet.

OK

Cancel

\$B\$3:\$P\$355

When you select the data range, please include the “Customer ID,” “Purchase Volume,” “District,” and “Choice” columns as well as the title bars for the variables selected for analysis.

*Note: Although you must select contiguous areas for processing, you can trim the input data beforehand. For example, you can delete outliers or discard variables from the set. We recommend that you set the calculation mode to manual on the **Tools** menu, choose **Options**, then **Calculation**, and then choose **Manual** if you wish to make several modifications to the data at once.*



Message boxes may pop up to indicate the status of the processing. When a message box appears, click **OK** to continue.

After the program executes the choice model, it will calculate each customer's probability of purchasing from each of the suppliers. In addition, it computes MNL (multinomial logit) coefficient estimates for all the variables included in the model.

You will now see a table showing the coefficient estimates for each independent variable and the associated statistics. The three dummy variables, D1, D2, and D3, capture the impact of suppliers' overall reputations. In addition columns Prob{1} through Prob{4} summarize the choice probabilities of each supplier for each customer.

Marketing Engineering - abb										
File Edit View Insert Format Tools Data Window Model Help										
MNL Estimation Result										
	A	B	C	D	E	F	G	H	I	J
1	MNL Estimation Result									
2		<i>Coefficient</i>	<i>Standard Error</i>	<i>t stat</i>						<i>p-value (2-tailed)</i>
3	Price	2.180582	0.586579	3.71746						0.00038
4	Energy_Loss	2.65561	0.673706	3.94179						0.00018
5	Maintenance	0.593692	0.437028	1.35847						0.17828
6	Warranty	1.140702	0.330995	3.44629						0.00092
7	Spare_Parts	-0.13262	0.21757	-0.60955						0.54395
8	Ease_Install	0.520023	0.172875	3.00808						0.00355
9	Prob_Solv	2.032181	0.549676	3.69705						0.00041
10	Quality	2.639413	0.687749	3.83775						0.00025
11	D1	-0.123791	0.678549	-0.18244						0.85572
12	D2	-0.671218	0.71941	-0.93301						0.35373
13	D3	-0.687235	0.715046	-0.96111						0.33951
14	CustomerID	Purchase V	District	Choice	Prob{1}	Prob{2}	Prob{3}	Prob{4}		
15	1	761	1	B	15.30%	82.27%	2.42%	0.01%		
16	2	627	1	D	0.00%	0.00%	2.61%	97.39%		
17	3	643	2	A	74.70%	25.29%	0.01%	0.00%		
18	4	562	3	D	48.79%	39.73%	0.00%	11.48%		
19	5	469	3	C	1.97%	0.01%	98.02%	0.00%		
20	6	233	1	B	0.01%	96.85%	3.09%	0.04%		
21	7	664	3	D	40.47%	7.69%	0.08%	51.76%		

Click **Paste Data** to pass the estimated purchase probabilities for all customers on to the descriptor sheet.

