



Discrete-Choice Wizards


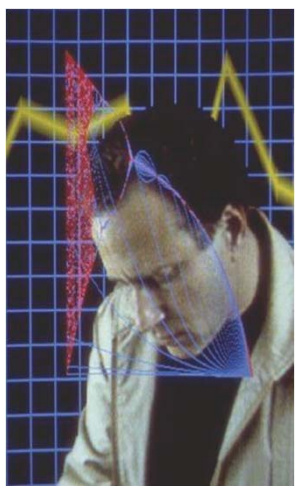
Microsoft Excel add-ins that facilitate discrete-choice projects



What Are StatWizards® ?

Quantitative tools for solving critical business problems.

For example ...



Take Some Common Business Questions

1. What features should we include in our products?
2. Given present and future competition, how should we price our products?
3. Should we re-brand our product?
4. Do our customers fall into segments based on differing needs from our products?
5. How will the product roll out?



1. What features should we include?

- Alternative form factors
- Re-branding
- Styling
- Functional options
- Bundling options
- Payment plans
- Advertising messages
- Rebate programs

We can include anything that affects the customer's choice:

- To buy your product vs. a competitor's product
- To buy any product at all
- To buy now or later



2. What price should we charge?

- What price would maximize revenues?
- What price would maximize profits?
- Should we price to gain market share?
- Which of these strategies should we follow?



3. Should we re-brand?

- How much is our brand worth?
- What are customers willing to pay for competing brands?
- Does this vary by feature set or customer group?



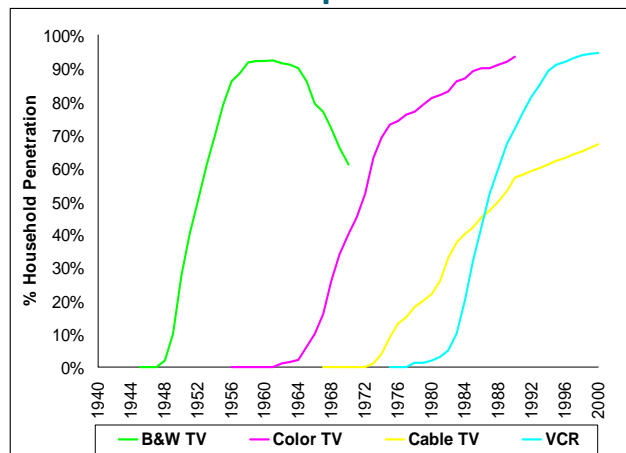
4. Do Customers Fall into Segments?



- Do different groups want different things from our products?
- Do our customers fall into segments with different price sensitivities and purchase behavior?
- Do different advertising messages resonate with different types of people?
- Would designing new products for different segments cannibalize existing products?




5. How will the product roll out?



Theory behind Discrete-Choice Models


- All transactions involve choice
- By looking at choices people make, we can understand how they trade off elements of the marketing mix
 - Price
 - Features
 - Advertising
 - Channels



Steps in Constructing a Discrete Choice Questionnaire - 1

- Break the product or service into attributes, including brand and price
- This example is based on a study of cellular telecommunications services.

Attributes:	Brand:	Phone type	Features	Device price:	Monthly fee, services:
Levels:	Motorola	Standard	Send fax	\$50	\$10.00/month
	Ericsson	Flip b&w	Receive fax	\$100	\$20.00/month
	Nokia	Flip color	E-mail	\$250	\$30.00/month
	Sony	Touchscreen		\$500	\$40.00/month



Steps in Constructing a Discrete Choice Questionnaire - 2

- Generate question sets by varying attribute levels according to a formal experimental design
- Respondents visit a number of hypothetical stores and choose what they would do.

Store 1

Directions: Please choose from among the following products, or specify "None of these". COMPLETELY fill in the circle corresponding to your choice.

Choice:	1	2	3	4	5
Brand::	Motorola	Ericsson	Nokia	Sony	None of these
Phone type:	Standard	Flip b&w	Touchscreen	Flip color	
Features:	Send fax		Receive fax		
	Receive fax		Receive fax		
Device price::	\$250	\$250	\$100	\$500	
Monthly fee, services:	\$10.00/month	\$20.00/month	\$30.00/month	\$30.00/month	

The Result: An Excel market simulator that answers our questions

PCS Market Simulator

Directions: 1. Enter assumptions in the blue input areas.
 2. In cells A-H, describe the packages you want to simulate.
 3. Simulation is automatic. Status bar displays % completion.
 4. View the results on the pie chart and lines 19-32. To print, click the printer icon.
 5. For help on a topic, click on a cell with a red dot, then press [Shift]+[F2].

Scenario Name:	Description of Marketplace	A	B	C	D	E	F	G	H	I
Basic	Package name	Your phone	Phone B	Phone C	Phone D					None
	Phone type	Standard	Flip b&w	Touch screen	Flip color					
	Brand	Motorola	Nokia	Ericsson	QualComm					
	Send fax		Send fax	Send fax	Send fax					
	Receive fax		Rec fax	Rec fax	Rec fax					
	E-mail	E-mail		E-mail	E-mail					
	Device price	\$100	\$200	\$499	\$428					
	Monthly fee, services	\$20.00/mo.	\$25.00/mo.	\$35.00/mo.	\$35.00/mo.					-0.2
	Adjustment factor									41.1%
	Potential share	13.7%	10.7%	16.7%	17.8%					
	Size of potential market (thousands)	10,452	8,138	12,698	13,536					31,279
	Initial annual service revenue (\$MM)	\$2,509	\$2,442	\$5,353	\$5,595					
	Potential device revenue (\$MM)	\$1,045	\$1,628	\$6,336	\$5,766					
	Potential total unit costs (\$MM)	\$993	\$733	\$1,905	\$2,233					
	Potential total contribution (\$MM)	\$52	\$896	\$4,432	\$3,533					
	Unit Cost of Features									
	Send fax	\$40.00	\$40.00	\$40.00	\$40.00					
	Receive fax	\$25.00	\$25.00	\$25.00	\$25.00					
	E-mail	\$45.00	\$40.00	\$35.00	\$45.00					
	Unit manufacturing cost	\$50.00	\$50.00	\$50.00	\$50.00					
	Total unit cost	\$95.00	\$95.00	\$120.00	\$125.00					
	Unit contribution	\$5.00	\$10.00	\$249.00	\$281.00					

Solution to 1. Feature Evaluation

The impact of adding fax reception to Phone A...

	C	D	E	F	G	H
9	Description of Marketplace		A	B	C	D
10	Package name:	Phone A	Phone B	Phone C	Phone D	
11	Phone type:	Standard	Flip b&w	Touch screen	Flip color	
12	Brand:	Motorola	Nokia	Ericsson	QualComm	
13	Send fax:	Send fax	Send fax	Send fax		
14	Receive fax:	Rec fax	Rec fax	Rec fax		
15	E-mail:	E-mail	E-mail	E-mail		
16	Device price:	\$100	\$200	\$499	\$426	
17	Monthly fee, services:	\$20.00/mo.	\$25.00/mo.	\$35.00/mo.	\$35.00/mo.	
18	Adjustment factor:					
19	Potential share:	15.0%	11.7%	18.3%	9.9%	
20	Size of potential market (thousands):	11,447	8,923	13,941	7,571	
21	Potential annual service revenue (\$MM):	\$2,747	\$2,677	\$5,855	\$3,180	
22	Potential device revenue (\$MM):	\$1,145	\$1,785	\$6,957	\$3,225	
23	Potential total unit costs (\$MM):	\$916	\$603	\$2,091	\$506	
24	Potential total contribution (\$MM):	\$229	\$981	\$4,865	\$2,619	
25	Unit Cost of Features					
27	Send fax:	\$40.00	\$40.00	\$40.00	\$40.00	
28	Receive fax:	\$25.00	\$25.00	\$25.00	\$30.00	
29	E-mail:	\$30.00	\$40.00	\$35.00	\$45.00	
30	Unit manufacturing cost:	\$50.00	\$50.00	\$50.00	\$50.00	
31	Total unit cost:	\$80.00	\$90.00	\$150.00	\$80.00	
32	Unit contribution:	\$20.00	\$110.00	\$349.00	\$346.00	



Solution to 1. Feature Evaluation

The impact of adding fax reception to Phone A...

	C	D	E	F	G	H
9	Description of Marketplace		A	B	C	D
10	Package name:	Phone A	Phone B	Phone C	Phone D	
11	Phone type:	Standard	Flip b&w	Touch screen	Flip color	
12	Brand:	Motorola	Nokia	Ericsson	QualComm	
13	Send fax:	Send fax	Send fax	Send fax		
14	Receive fax:	Rec fax	Rec fax	Rec fax		
15	E-mail:	E-mail	E-mail	E-mail		
16	Device price:	\$100	\$200	\$499	\$426	
17	Monthly fee, services:	\$20.00/mo.	\$25.00/mo.	\$35.00/mo.	\$35.00/mo.	
18	Adjustment factor:					
19	Potential share:	17.3%	11.4%	17.8%	9.7%	
20	Size of potential market (thousands):	15,193	8,681	13,572	7,367	
21	Potential annual service revenue (\$MM):	\$3,166	\$2,604	\$5,700	\$3,094	
22	Potential device revenue (\$MM):	\$1,319	\$1,736	\$6,773	\$3,138	
23	Potential total unit costs (\$MM):	\$4,285	\$781	\$2,036	\$589	
24	Potential total contribution (\$MM):	(\$66)	\$955	\$4,737	\$2,549	
25	Unit Cost of Features					
27	Send fax:	\$40.00	\$40.00	\$40.00	\$40.00	
28	Receive fax:	\$25.00	\$25.00	\$25.00	\$30.00	
29	E-mail:	\$30.00	\$40.00	\$35.00	\$45.00	
30	Unit manufacturing cost:	\$50.00	\$50.00	\$50.00	\$50.00	
31	Total unit cost:	\$105.00	\$90.00	\$150.00	\$80.00	
32	Unit contribution:	(\$5.00)	\$110.00	\$349.00	\$346.00	


... is to boost share but generate losses.




Solution to 2. Pricing

Describe a competitive situation ...

Description of Marketplace	A	B	C	D
Package name:	Phone A	Phone B	Phone C	Phone D
Phone type:	Standard	Flip b&w	Touch screen	Flip color
Brand:	Motorola	Nokia	Ericsson	QualComm
Send fax:		Send fax	Send fax	Send fax
Receive fax:			Rec fax	Rec fax
E-mail:	E-mail		E-mail	E-mail
Device price:	\$100	\$200	\$499	\$426
Monthly fee, services:	\$20.00/mo.	\$25.00/mo.	\$35.00/mo.	\$35.00/mo.
Adjustment factor:				
Potential share:	13.7%	10.7%	16.7%	17.8%


... and calculate potential market share 




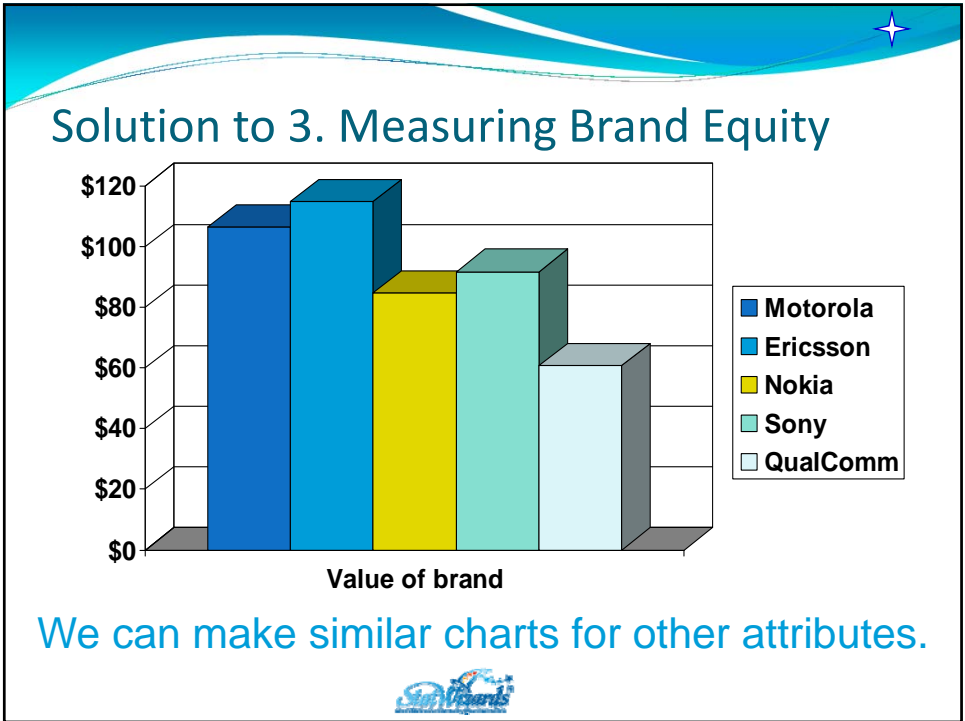
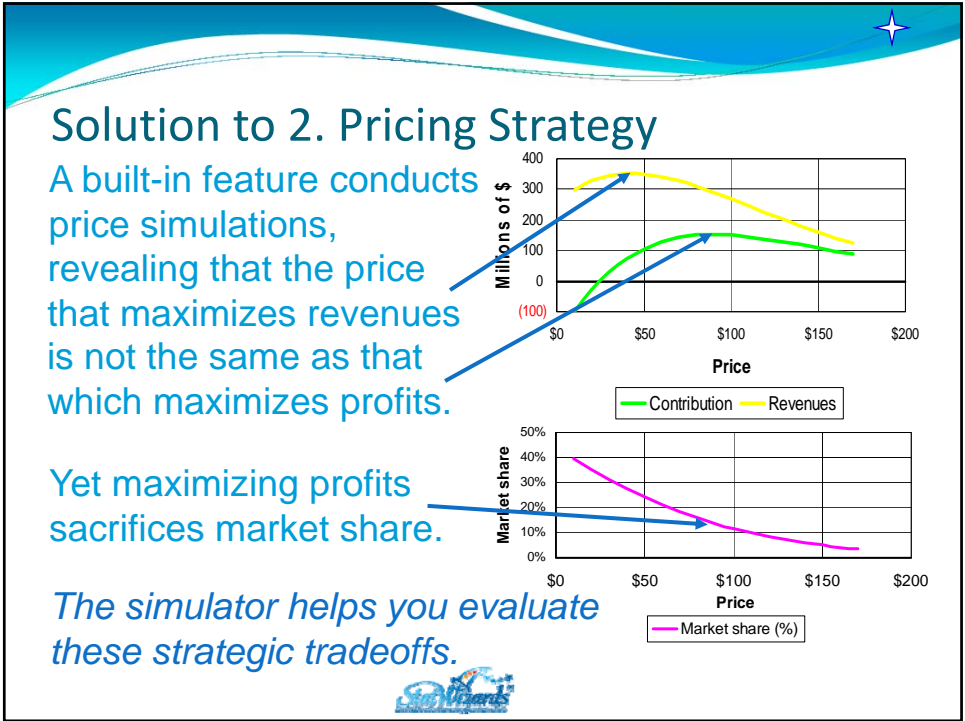
Solution to 2. Pricing

Change an assumption ...

Description of Marketplace	A	B	C	D
Package name:	Phone A	Phone B	Phone C	Phone D
Phone type:	Standard	Flip b&w	Touch screen	Flip color
Brand:	Motorola	Nokia	Ericsson	QualComm
Send fax:		Send fax	Send fax	Send fax
Receive fax:			Rec fax	Rec fax
E-mail:	E-mail		E-mail	E-mail
Device price:	\$100	\$200	\$499	\$200
Monthly fee, services:	\$20.00/mo.	\$25.00/mo.	\$35.00/mo.	\$35.00/mo.
Adjustment factor:				
Potential share:	11.6%	9.1%	14.3%	30.2%

... and immediately see the impact 

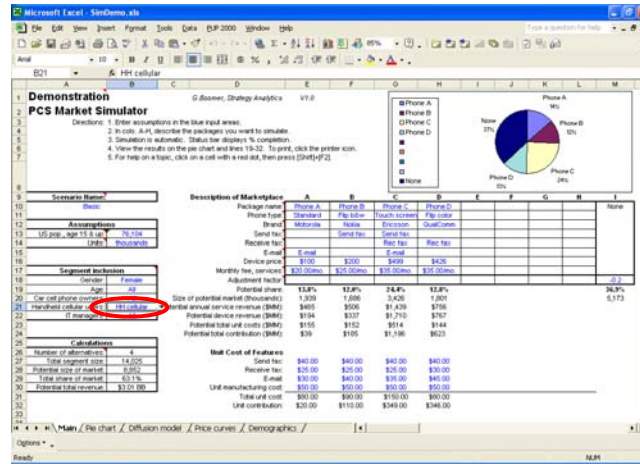




Solution to 4. Identifying Market Segments

In building the model, we identified 5 segmentation variables.

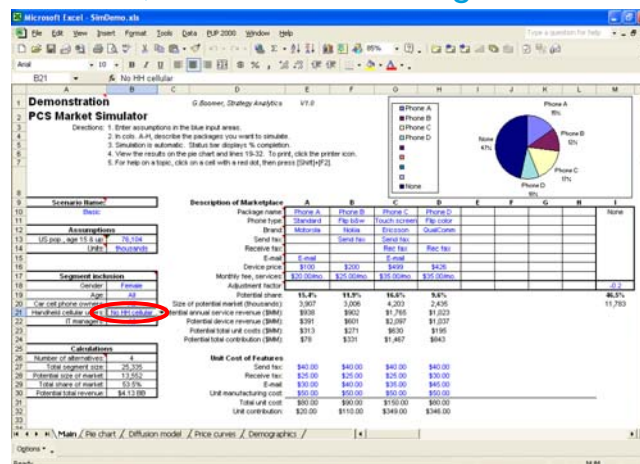
The simulator lets us see



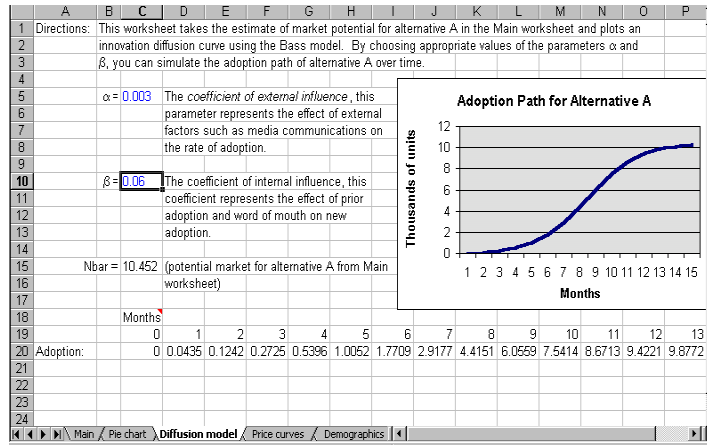
Solution to 4. Identifying Market Segments

In building the model, we identified 5 segmentation variables.

The simulator lets us see how segment preferences differ.



Solution to 5. Product Roll-out



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