



# Discrete-Choice Wizards

Microsoft Excel add-ins that facilitate discrete-choice projects



## Discrete-Choice Models

In recent years, discrete-choice analysis has emerged as a powerful tool in the market-research arsenal. Based on consumers' hypothetical or real-world choices, discrete-choice models help guide product managers' critical tasks:

- Positioning products in a competitive marketplace
- Developing strategic and tactical pricing strategies
- Sizing markets for new products
- Determining the optimal mix of product features
- Isolating market segments based on product preferences

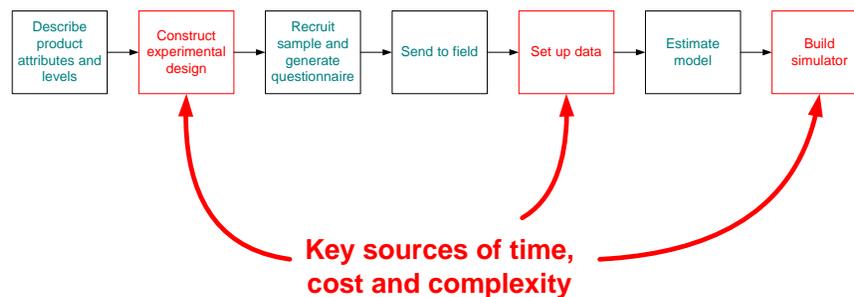


## However, key factors limit adoption

- Complexity of available techniques, e.g.,
  - Nested specifications
  - Allowance for heterogeneity (mixed logit)
  - Latent-class choice
- Expense of typical projects - \$100,000 +
- Need for specialists
- Time required to design and execute projects
  - Often 6-12 weeks
  - Longer if many constituents are involved



## A Typical DCM Project Schedule



## If you're a market-research manager or practitioner,

Would you like to:

- Make generating experimental designs EASY
- Make data setup EASY
- Make building a simulator EASY

while improving quality?



## To be more precise,

Would you like to:

- Produce an experimental design in minutes rather than hours?
- Eliminate the tedium in reformatting data to suit requirements of computer programs?
- Cut days out of the time it takes to implement a discrete-choice project?
- Automatically deliver an Excel-based simulator to your end-users?



## If so, take a look at StatWizards®

- **Design Wizard** - An Excel add-in that takes a list of product attributes and generates an experimental design
- **Data Wizard** – A second add-in that takes a spreadsheet of respondent data and configures it for the most popular discrete-choice estimation packages
- **Simulator Wizard** - A third add-in that reads the output from a statistical package and builds a market simulator in Excel



## Design Wizard



An Excel add-in that generates an experimental design and choice sets based on a list of product attributes





## Design Wizard Features

- Automatic selection of best design
- Designs are fully customizable
- Permits blocked and unblocked designs
- Supports up to 13 attribute levels
- Suggests values for choices per store
- Recommends blocking factor, if needed
- Uses Solver to maximize efficiency and minimize overlap
- Permits extremely complex designs
- Translates choice exercises into other languages
- Employs best-practice defaults at every step



## Design Wizard Benefits

- Greatly reduced time in design construction
- High-quality, optimal designs
- Elimination of error
- Flexibility to meet most needs
- Facilitation of very complex designs
- Ease of learning and use
- Typically pays for itself in one project



# Design Wizard Requirements

- A list of product attributes, e.g.,
  - Brand
  - Price
  - Key features
- A list of levels or level ranges for each attribute, e.g.,
  - \$100 - \$500
  - Bundled vs. unbundled
  - Sony, Motorola, Ericsson



# Design Wizard Walkthrough - 1

1. Start with a simple list of product attributes and levels in Excel.

Attribute name:	Model	Brand	Meter shelf price	Mfr. Rebate	Trade-in allowance	Glucose test strip quantity	Glucose test speed	Glucose test strip unit price
Test values:	CheckIt Instant	X	\$16.88	\$0.00	\$0.00	25	5 sec	\$0.50
	CheckIt Simple	X	\$109.99	\$40.00	\$40.00	100	15 sec	\$0.85
	King	None					30 sec	
	2In1	Ours					40 sec	
	ExactlyRight	Y						
	OneDrop	Z						
	TakeControl	Ours						
	LightTouch	Big						

2. Run the wizard from Excel's Tools menu.



# Design Wizard Walkthrough - 2

3. The wizard adds some information and directions to your workbook...

**Comments provide help**

Attribute name	Model	Brand	Meter sheet price	Mtr. rebate	Trade-in allowance	Glucose test strip quantity	Glucose test strip speed	Glucose test strip unit price	Fructosamine test available?	Fructosamine test quantity
Check Instant	X		\$15.88	\$0.00	\$0.00	25	5 sec	\$0.50	Yes	2
Check Simple	X		\$47.92	\$13.33	\$13.33	50	15 sec	\$0.62	No	4
King	None		\$78.96	\$28.66	\$28.66	75	30 sec	\$0.74		8
2in1	Our		\$109.99	\$40.00	\$40.00	100	40 sec	\$0.85		12
EachRight	Y									
OneDrop	Z									
TalkControl	Our									
LightTouch	Bq									

**Automatically generates variable names**

Desired # of levels	Selection type (Fixed, Continuous, One only or Vary all)	Variable names (1 to 9 characters)	Expected effect on value proposition (+/-/Block)
0	Fixed	MtrPrice	
0	Fixed	MtrRbt	
4	Continuous	TradeIn	
4	Continuous	GlucoseQty	
4	Continuous	GlucoseSpd	
4	Continuous	GlucosePr	
2	One only	FrcAvbl	
4	Continuous	FrcQty	

**Directions are attached to the sheet**

Directions: 1. Change Desired # of levels; and Selection type so that Required factors = Closest design.  
 2. Arrange Sequence numbers to reflect how you want the questionnaire to appear.  
 3. Make any changes you want to Variable names, here and in the Variables sheet.  
 4. From the drop-down list, enter the total number of Stores you want to show subjects.  
 5. Blocking data allows you to show a smaller number of stores to each respondent. Do this by increasing Blocks such that Stores divided by Blocks is a whole number.

# Design Wizard Walkthrough - 3

4. It spreads attribute ranges and assigns unique variable names...

Attribute name	Model	Brand	Meter sheet price	Mtr. rebate	Trade-in allowance	Glucose test strip quantity	Glucose test strip speed	Glucose test strip unit price	Fructosamine test available?	Fructosamine test quantity	Fructosamine test strip unit price
Check Instant	X		\$15.88	\$0.00	\$0.00	25	5 sec	\$0.50	Yes	2	\$0.00
Check Simple	X		\$47.92	\$13.33	\$13.33	50	15 sec	\$0.62	No	4	\$3.33
King	None		\$78.96	\$28.66	\$28.66	75	30 sec	\$0.74		8	\$6.66
2in1	Our		\$109.99	\$40.00	\$40.00	100	40 sec	\$0.85		12	\$10.00

**Calculates equal intervals for levels**

Desired # of levels	Selection type (Fixed, Continuous, One only or Vary all)	Variable names (1 to 9 characters)	Expected effect on value proposition (+/-/Block)
0	Fixed	MtrPrice	
0	Fixed	MtrRbt	
4	Continuous	TradeIn	
4	Continuous	GlucoseQty	
4	Continuous	GlucoseSpd	
4	Continuous	GlucosePr	
2	One only	FrcAvbl	
4	Continuous	FrcQty	
4	Continuous	FrcPr	

**Renames duplicate variables**

**Recommends number of stores and products per store**

Stores per block: 9  
 Blocks: 1

Directions: 1. Change Desired # of levels; and Selection type so that Required factors = Closest design.  
 2. Arrange Sequence numbers to reflect how you want the questionnaire to appear.  
 3. Make any changes you want to Variable names, here and in the Variables sheet.  
 4. From the drop-down list, enter the total number of Stores you want to show subjects.  
 5. Blocking data allows you to show a smaller number of stores to each respondent.

# Design Wizard Walkthrough - 4

5. ...then in seconds builds an experimental design, ...

	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
1							1	2	3	4	5	6
2							Model	Brand	Meter shelf price	Mfr. Rebate	Trade-in allowance	Glucose test strip quantity
3				Choice set	Question	Alt			MtrPrice	MfrRbt	TrdAllwn	GlcQty
4	X28X29	X30X31	X32X33		Question	AltNo						
5	0	0	0		1	1	CheckIt Instant	X	\$16.88	\$0.00	\$0.00	25
6	3	2	0		1	2	CheckIt Simple	X	\$47.92	\$40.00	\$0.00	75
7	2	3	2		1	3	King	None	\$47.92	\$13.33	\$13.33	75
8	3	0	2		1	4	2In1	Ours	\$78.96	\$0.00	\$40.00	100
9	2	3	2		1	5	ExactlyRight	Y	\$109.99	\$13.33	\$40.00	25
10	3	3	1		1	6	OneDrop	Z	\$16.88	\$0.00	\$26.66	75
11	1	0	2		1	7	TakeControl	Ours	\$47.92	\$40.00	\$40.00	50
12	0	0	2		1	8	LightTouch	Big	\$47.92	\$0.00	\$26.66	100
13	2	0	1		2	1	CheckIt Instant	X	\$16.88	\$26.66	\$13.33	50
14	1	3	0		2	2	CheckIt Simple	X	\$78.96	\$40.00	\$26.66	50
15	3	2	1		2	3	King	None	\$47.92	\$13.33	\$26.66	50
16	3	1	3		2	4	2In1	Ours	\$16.88	\$26.66	\$26.66	100
17	0	3	3		2	5	ExactlyRight	Y	\$16.88	\$26.66	\$0.00	50
18	0	2	0		2	6	OneDrop	Z	\$109.99	\$0.00	\$26.66	50
19	2	3	0		2	7	TakeControl	Ours	\$109.99	\$26.66	\$0.00	100
20	1	1	1		2	8	LightTouch	Big	\$47.92	\$13.33	\$40.00	25
21	0	2	2		3	1	CheckIt Instant	X	\$16.88	\$26.66	\$40.00	75

# Design Wizard Walkthrough - 5

6. ...complete with printer- or Web-ready shopping excursions, ...

	B	C	D	E	F	G	H	I	J	K	L	
1	<b>Store 1</b>											1
2	Directions: Please choose from among the following products, or specify "None of these" if you don't want any of them.											(Main)
3	COMPLETED BY in the circle corresponding to your choice.											
4	Choice	1	2	3	4	5	6	7	8	9	Circle?	
5	Model	CheckIt Instant	CheckIt Simple	King	2In1	ExactlyRight	OneDrop	TakeControl	LightTouch	None of these	End All	
6	Brand	X				Y	Z	Ours	Big		Yes	
7	Meter shelf price	\$16.88	\$47.92	\$47.92	\$78.96	\$109.99	\$16.88	\$47.92	\$47.92			
8	Mfr. Rebate	\$0.00	\$40.00	\$13.33	\$0.00	\$13.33	\$0.00	\$40.00	\$0.00			
9	Trade-in allowance	\$0.00	\$0.00	\$13.33	\$40.00	\$40.00	\$26.66	\$40.00	\$26.66			
10	Glucose test strip quantity	25	75	75	100	25	75	50	100			
11	Glucose test speed	5 sec	5 sec	15 sec	30 sec	30 sec	40 sec	40 sec	30 sec			
12	Glucose test strip unit price	\$0.50	\$0.62	\$0.50	\$0.85	\$0.50	\$0.50	\$0.50	\$0.50			
13	Fructoseamide test available?	Yes	No	Yes	Yes	Yes	No	No	No			
14	Fructoseamide test quantity	2	4	8	8	4	8	8	12			
15	Fructoseamide test strip unit price	\$1.00	\$2.33	\$1.00	\$2.33	\$2.33	\$2.33	\$1.00	\$1.00			
16	Bundle discount	Yes	No	No	No	Yes	No	No	Yes			
17	Bundle discount %	0%	20%	20%	0%	10%	10%	10%	20%			
18	Trial period	None	None	None	None	30-day	Moneyback	None	Moneyback			
19	Ease-of-use message	Easy to use	Easy blood application	Easy to use	Confirmation dot makes testing sure	Easy blood application	No cleaning	No buttons, no fuss no fiddles	No calibration, no coding			
20	Simplicity message	Simple accuracy testing	Simple accuracy testing	Simple 3 step process	Simple two step testing	Simple accuracy testing	Simple accuracy testing	Reliable	Simple two step testing			
21	Accuracy message	Reliable	Reliable	Clinical Accuracy	Reliable	Accurate results	Accurate results	Reliable	Accurate results			
22	Blood spot	Less blood (less pain)	Very small sample required	Less blood (less pain)	Very small sample required	Less blood (less pain)	Test anywhere, any time	Test anywhere, any time	Test anywhere, any time			
23	Minor skin irritation	Fits in the palm of your hand	Large easy to read display	Comport (portable)	Fits in the palm of your hand	Comport (portable)	Fits in the palm of your hand	Fits in the palm of your hand	Fits in the palm of your hand			
24	Minor skin irritation	25	35	200	200	200	200	200	200			

## Design Wizard Walkthrough - 6

7. ... and a data set ready for export to most statistical packages.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Question	AllNo	MtrPrice	MfrRbt	TrdAllwn	GlcQntty	GlcSpeed	GlcPrice	GlcAvlbl	GlpQntty	GlpPrice	Bundle	BndDscrt
2	1	1	16.88	0	0	25	5	0.5	0	2	0	0	0
3	1	2	47.92	40	0	75	5	0.62	1	4	3.33	1	0.2
4	1	3	47.92	13.33	13.33	75	15	0.5	0	8	10	1	0.2
5	1	4	78.96	0	40	100	30	0.85	0	8	3.33	1	0
6	1	5	109.99	13.33	40	25	30	0.5	0	4	3.33	0	0.1
7	1	6	16.88	0	26.66	75	40	0.5	1	8	3.33	1	0.1
8	1	7	47.92	40	40	50	40	0.5	1	8	0	1	0.1
9	1	8	47.92	0	26.66	100	30	0.5	1	12	10	0	0.2
10	1	9	0	0	0	0	0	0	0	0	0	0	0
11	2	1	16.88	26.66	13.33	50	40	0.5	0	4	10	1	0.3
12	2	2	78.96	40	26.66	50	5	0.5	0	8	6.66	1	0.3
13	2	3	47.92	13.33	26.66	50	5	0.74	0	12	6.66	0	0
14	2	4	16.88	26.66	26.66	100	5	0.74	0	4	3.33	0	0.3
15	2	5	16.88	26.66	0	50	15	0.62	1	8	3.33	0	0
16	2	6	109.99	0	26.66	50	15	0.85	0	2	3.33	1	0.3
17	2	7	109.99	26.66	0	100	40	0.74	1	12	6.66	0	0.1
18	2	8	47.92	13.33	40	25	15	0.85	1	12	3.33	0	0.3
19	2	9	0	0	0	0	0	0	0	0	0	0	0
20	3	1	16.88	26.66	40	75	5	0.85	1	12	6.66	1	0.3
21	3	2	109.99	0	13.33	100	40	0.62	0	12	0	0	0.2
22	3	3	109.99	40	26.66	100	30	0.62	1	2	0	1	0.2



## Design Wizard Limitations

- 3-level designs are not supported
  - Must be converted to 4 levels, with some loss in balance
  - Often this is not a critical limitation
- Designs above  $2^{11}$  support main effects only
  - In practice this is a good compromise between complexity and tractability





## The Design Wizard

Turbo-charges the generation of  
efficient experimental designs,  
making the process **EASY**



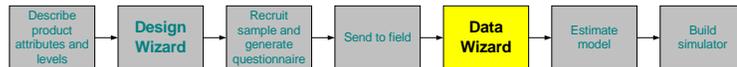
## The Design Wizard

Turbo-charges the generation of  
efficient experimental designs,  
making the process **EASY**





## Data Wizard



An Excel add-in that converts a spreadsheet of participant responses into data sets and control files accepted by major statistical programs



## Data Wizard Features

- Starts with a spreadsheet of responses – the simplest data form
- Automatically distinguishes between continuous, categorical, binary and choice variables.
- Handles both stated-preference (SP) and revealed-preference (RP) data
- Can incorporate design data from other spreadsheets
- Generates data sets and starting command files for most popular statistical estimation packages
  - Latent GOLD Choice
  - Limdep
  - R
  - Biogeme
  - Gauss (Kenneth Train's mixed logit programs)





## Data Wizard Benefits

- Eliminates the most tedious portion of a discrete-choice project: Data setup
- Removes a common source of error:
  - The lengthy customized data manipulation routines needed to sort and merge design and response data.
- Cuts at least a day off a discrete-choice project's schedule
- Typically pays for itself in one project



## Data Wizard Requirements

- A spreadsheet of response data, with respondents in rows and variables in columns
- Optional: a separate worksheet containing design elements
- A supported statistical package that can estimate discrete-choice models
  - Latent GOLD Choice
  - LIMDEP's NLOGIT
  - R's mlogit library
  - Biogeme
  - Gauss + Kenneth Train's Mixed Logit routine



# Data Wizard Walkthrough - 1

1. Start with a simple spreadsheet containing survey responses.

	A	B	C	D	E	F	G	H
1	Instructions:							
2	Enter data into the spreadsheet. The spreadsheet will automatically check for valid ranges.							
3	To facilitate data entry, from the main menu select Tools, then Options. Click the tab labeled Edit. Check Move selection after Enter, and set direction to Right.							
4								
5	Valid range:	1-6	1-6		0-1	0-1	0-1	0-1
6								
7	ID	Age	Insurance situation	Insurance Other	Reimburse meter: all	Reimburse meter: part	Reimburse strips: all	Reimburse strips: part
8	1001	6	1		0	0	1	0
9	1002	5	1		1	0	1	0
10	1004	6	1		1	0	1	0
11	1005	5	5		1	0	1	0
12	1006	4	1					
13	1007	6	5	DoD				
14	1008	6	4					
15	1009	5	1					
16	1010	6	4					
17	1011	6	4					
18	1012	4	2					

**Data Setup Wizard**

Welcome to the Data Setup Wizard. Using a spreadsheet with an experimental design plus a spreadsheet with raw data, this wizard creates a dataset that serves as input to a DCM statistical estimation package.

**Step 1. Select the cells containing the raw data.**

Your selection must contain a header row. If you disagree with the range provided, press the button to select a new range with your mouse.

\$A\$7:\$I\$340

2. Run the wizard from Excel's Tools menu.



# Data Wizard Walkthrough - 2

3. The wizard adds some additional information to your workbook...

	A	L	M	N	O	P	Q	R	S	T	U
1	Instructions:										
2	Enter data into the spreadsheet. The spreadsheet will automatically check for valid ranges.										
3	To facilitate data entry, from the main menu select Tools, then Options. Click the tab labeled Edit. Check Move selection after Enter, and set direction to Right.										
4											
5	Valid range:	0-100		1-4	1-2	1-2	1-3	1-3	1-3	1-6	1-17
6											
7	Variable name:	Pmb	CPyStrps	MdxPlan	InsPump	Gender	VhrDgnsd	DbtType	Income	Ethnic	Chc1
8	N values:	100	50	2	2	2	3	3	3	6	17
9	Data type:	Continuous	Continuous	Discrete	Binary	Binary	Discrete	Discrete	Discrete	Discrete	Choice
10											
11											
12	ID	Reimburse strips: %	Co-pay on strips	Medication plan	Insulin pump	Gender	When diagnosed	Diabetes type	Income	Ethnicity	Choice, Store 1
13	1001	95		3	2	1	3	3	3		5
14	1002	100	5	3	2	1	3	2	1		4
15	1004	100	5	3	2	2	3	2	2		5
16	1005	100		3	2	2	3	2	1		5
17	1006	100		3	2	2	3	2			7
18	1007	100		3	2	1	3	2	2		10
19	1008	100		3	2	1	3	2	2		17
20	1009	0		1	2	1	3	2	2		11
21	1010	100		3	2	1	3	2	2		2
22	1011	100		3	2	1	1	2	2		13
23	1012	100	10	3	2	2	2	2	1	4	10
24	1013	100		1	2	2	2	2	1		5

Automatically determines variable type

Automatically generates variable names



# Data Wizard Walkthrough - 3

4. It recognizes discrete variables and sets up categories, ...

	A	B	C	D	E	F	G	H
1	Value	Age	InsSttn	MdcPlan	WhnDgnsd	DbtType	Income	Ethnicit
2	1	Age02	Ins01	Mdc01	Whn01	Dbt01	Inc01	Eth01
3	2	Age02	Ins02	Mdc02	Whn02	Dbt02	Inc02	
4	3	Age03	Ins03	Mdc03	Whn03	Dbt03	Inc03	Eth03
5	4	Age04	Ins04	Mdc04				Eth04
6	5	Age05	Ins05					
7	6	Age06	Ins06					Eth06
8								
9								
10								
11								
12								
13								
14								
15								

The above variable names are just placeholders.  
 You will probably want to substitute more descriptive names.  
 For example, you might replace a name such as "Age02" with "Age25X34".  
 When you have replaced all the above names with ones you want,  
 rerun Tools | Data setup from Excel's menu (or press Ctrl-Shift-D).

5. ... then allows the user to designate category names.  
 (It will import any names in an SPSS file)

	A	B	C	D	E	F	G	H
1	Value	Age	InsSttn	MdcPlan	WhnDgnsd	DbtType	Income	Ethnicit
2	1	AX25	HMO	UseInsln	DiagX2	Type1	IncX35	AfricAmr
3	2	A25X34	PPO	UseDiet	Diag2x5	Type2	Inc35x60	
4	3	A35X44	Tradlnsr	UseMeds	Diag5X	TypeUnkn	Inc60X	Caucasn
5	4	A45X54	Medicare	UseOther				Hispanic
6	5	A55X64	OthStlns					
7	6	A65X	Othlnsur					OthEthn
8								



# Data Wizard Walkthrough - 4

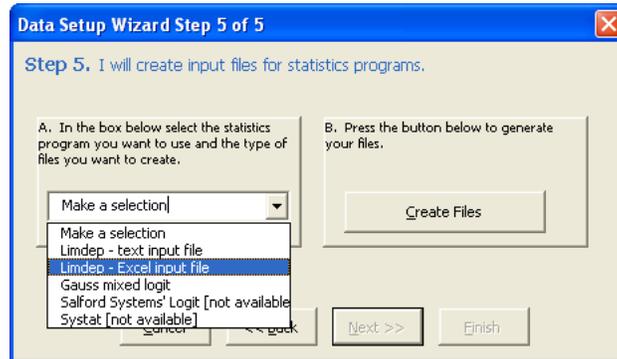
6. The wizard then reformats the data for export to most statistical packages.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	ID	AX25	A25X34	A35X44	A45X54	A55X64	A65X	HMO	PPO	Tradlnsr	Medicare	OthStlns	Othlnsur	ReimbMA	ReimbMP	ReimbSA
2	1001	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
3	1002	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1
4	1004	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1
5	1005	0	0	0	0	1	0	0	0	0	0	1	0	1	0	1
6	1006	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1
7	1007	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1
8	1008	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1
9	1009	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0
10	1010	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1
11	1011	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1
12	1012	0	0	0	1	0	0	0	1	0	0	0	0			1
13	1012	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
14	1013	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1
15	1014	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
16	1015	0	0	0	1	0	0	0	0	0	0	1	0	1	0	1
17	1016	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0
18	1017	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1
19	1018	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1



## Data Wizard Walkthrough - 5

7. Next, it asks the user to select from a number of statistical packages....



## Data Wizard Walkthrough - 6

8. Finally, it combines socio-demographic with design data (e.g., from the Design Wizard) to produce a data set ready for input into the chosen statistics program...

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Question	AltNo	MtrPrice	MtrRbt	TrdAlwln	GlcQntty	GlcSpeed	GlcPrice	FrAvbl	FrQntty	FrPrice	Bundle	BndDscnt	TrPrNone	TrPr30Dy	TrPrBack
2	1	1	16.88	0	0	25	5	0.5	0	2	0	0	0	1	0	0
3	1	2	47.92	40	0	75	5	0.62	1	4	3.33	1	0.2	1	0	0
4	1	3	47.92	13.33	13.33	75	15	0.5	0	8	10	1	0.2	1	0	0
5	1	4	78.96	0	40	100	30	0.85	0	8	3.33	1	0	1	0	0
6	1	5	109.99	13.33	40	25	30	0.5	0	4	3.33	0	0.1	0	1	0
7	1	6	16.88	0	26.66	75	40	0.5	1	8	3.33	1	0.1	0	0	1
8	1	7	47.92	40	40	50	40	0.5	1	8	0	1	0.1	1	0	0
9	1	8	47.92	0	26.66	100	30	0.5	1	12	10	0	0.2	0	0	1
10	1	9														0
11	2	1														0
12	2	2														0
13	2	3														0
14	2	4														0
15	2	5	16.88	26.66	0	50	15	0.62	1	8	3.33	0	0	0	1	0
16	2	6	109.99	0	26.66	50	15	0.85	0	2	3.33	1	0.3	0	0	1
17	2	7	109.99	26.66	0	100	40	0.74	1	12	6.66	0	0.1	1	0	0
18	2	8	47.92	13.33	40	25	15	0.85	1	12	3.33	0	0.3	1	0	0
19	2	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0

9. ...and generates a command file needed to load the data set.





## Data Wizard Limitations

- Current release does not cover all estimation packages.  
Does not yet include:
  - SAS
  - S Plus
  - SYSTAT
  - Dan Steinberg's LOGIT program
  - Kenneth Train's Probit program in Gauss
- Support for these packages will be added on request



## The Data Wizard

Makes organizing even large data  
sets for discrete-choice  
estimation **EASY**





## Simulator Wizard



An Excel add-in that reads output files from statistical estimation programs (and StatWizards spreadsheets, if they exist), then builds a market simulator in Excel



## Simulator Wizard Features

- Quickly translates statistical output to a powerful tool that product managers can use.
- Can be easily customized and extended. Examples:
  - Inclusion of production cost data
  - Calculation of contribution margins
- Users don't have to deal with underlying statistics
- Easily handles individual-level coefficients
- Automatically generates presentation-ready charts
  - Price curves
  - Feature importance
  - Willingness to pay





## Simulator Wizard Benefits

- Translates statistical output into a form that product managers can use to make critical decisions
- Gives managers a powerful tool for pricing and positioning their product or service in a competitive marketplace
- Use of Excel allows extensive customization to suit individual requirements
- Fast construction saves time
- Typically pays for itself in one project



## Simulator Wizard Requirements

- Text file containing output from a discrete-choice estimation
  - Latent GOLD Choice
  - LIMDEP
  - R's mlogit library
  - Biogeme
  - Gauss
- Optional: data spreadsheet created with the Data Setup Wizard
- Optional: design spreadsheet created with the Experimental Design Wizard



# Simulator Wizard Walkthrough - 1

1. Start with output file from a program that estimates discrete-choice models.

```

+-----+
| LIMDEP Estimation Results                               Run log line 105 Page 4 |
| Current sample contains 28985 observations.             |
+-----+
|
| Estimation, disaggregate prices, corrected brands, two nests
|-----|-----|-----|-----|-----|
| Variable | Coefficient | Standard Error | b/St.Er. | P[|Z|>z] | Mean of X |
|-----|-----|-----|-----|-----|
| GPPRICE  | -.1206148879E-01 | .30140264E-02 | -4.002 | .0001 |
| GPQUANT  | .4369499743E-01 | .13510843E-01 | 3.234 | .0012 |
| BNDSTRPR | -.1193776254E-01 | .26417780E-02 | -4.519 | .0000 |
| EASTCHST | .7081904685 | .16537663 | 4.282 | .0000 |
| EASCNFDT | .5576550742 | .16935718 | 3.293 | .0010 |
| EASBLAPP | .6391570079 | .16120608 | 3.965 | .0001 |
| EASNOBUT | .7006974605 | .15796922 | 4.436 | .0000 |
| EASNOCAL | .5273872051 | .18629203 | 2.831 | .0046 |
| EASNOCLN | .5499335922 | .17207232 | 3.196 | .0014 |
| EASDEX   | .3868754945 | .18065849 | 2.141 | .0322 |
| BLDLESS  | .2496376828 | .97544885E-01 | 2.559 | .0105 |
| BLDANYWH | .1615726747 | .10975382 | 1.472 | .1410 |
| BLDSMALL | .2126939640 | .10919174 | 1.948 | .0514 |
| MTRSZLRG | .1683826676 | .12034270 | 1.399 | .1618 |
| MTRSZFIT | .3258673834 | .13694826 | 2.379 | .0173 |
| MTRSZPIC | .2065478481 | .12313138 | 1.677 | .0935 |
| A25X34   | 1.103705047 | .35461193 | 3.112 | .0019 |
| A35X44   | .5690438923 | .23989730 | 2.372 | .0177 |
| A45X54   | .3235839084 | .18765299 | 1.724 | .0846 |
| MEDICARE | .1113722949 | .20710261 | .538 | .5907 |
| GPMEICR  | -.4895323808 | .14185080 | -3.451 | .0006 |
| GPUSEDIE | .6783783139 | .20543635 | 3.302 | .0010 |
| GPI35X60 | .3376500491 | .12322681 | 2.740 | .0061 |
| GPI60X   | .6358631485 | .15527545 | 4.095 | .0000 |
|-----|-----|-----|-----|-----|
| Inclusive value Parameters
| BUY      | .7749948670 | .10810072 | 5.319 | .0000 |
| NOBUY    | 1.000000000 | ..... (Fixed Parameter) .....

```



# Simulator Wizard Walkthrough - 2

2. Run the wizard from Excel's Tools menu.

**Simulator Builder Step 1 of 3**

Welcome to the DCM Simulator Wizard. Using output from a program that estimates discrete-choice models, this wizard creates a simulator you can use to develop a powerful marketing strategy.

**Step 1. Satisfy requirements.**

To use this wizard, you must have access to the following:

1. A text file containing the results from a discrete-choice statistical estimation.
2. An Excel workbook containing the raw data. This should have been created using the Data Setup Wizard.

If these files are accessible to your computer, either from your hard disk or from a network, press the Next button to continue. If not, press Cancel.



## Simulator Wizard Walkthrough - 3

3. The Wizard prompts for some additional information, ...

**Simulator Builder Step 2 of 3**

**Step 2. Get files and workbooks.**

This step assembles any spreadsheets you may have used in collecting the data for the model you want to simulate. It then begins to build the simulator.

A. If the raw data for this study resides in a spreadsheet created using the Data Setup Wizard, check the box below. Otherwise, leave it unchecked.

Data spreadsheet was produced using Data Setup Wizard

B. Click the button below and follow instructions. You will be asked for:

1. The name of the text file containing output from a discrete-choice statistical program.
2. The name of the Excel workbook containing your data, if relevant.

Get Files

Cancel
<< Back
Next >>
Finish



## Simulator Wizard Walkthrough - 4

4. ... links the originating data and design sheets, ...

1	A	B	C	D	E	F	G	H	I	J	K	L	M	N
2	Question	AltNo	BmRoche	BmNone	BmLXN	BmAbbt	BmLScn	BmBayer	MtrPrice	MfrRbt	TrdAllwn	GlcCntty	GlcSpeed	GlcPri
3	1	2	0	0	0	0	0	1	109.99	26.66	13.33	100	5	0.5
4	1	3	0	0	0	0	0	1	16.88	0	26.66	100	30	0.85
5	1	4	0	0	0	1	0	0	78.96	40	26.66	100	5	0.85
6	1	5	0	0	1	0	0	0	47.92	13.33	40	25	5	0.62
7	1	6	1	0	0	0	0	0	16.88	0	0	25	5	0.5

1	A	B	C	D	E	F	G	H	I	J	K	L	M	N
2	ID	AX25	A25X34	A35X44	A45X54	A55X64	A65X	HMO	PPO	Tradlnsr	Medicare	OthStlns	Othlnsur	ReimbMA
3	1001	0	0	0	0	0	1	1	0	0	0	0	0	0
4	1002	0	0	0	0	0	1	1	0	0	0	0	0	1
5	1004	0	0	0	0	0	1	1	0	0	0	0	0	1
6	1005	0	0	0	0	1	0	0	0	0	0	1	0	1
7	1006	0	0	0	1	0	0	1	0	0	0	0	0	1
8	1007	0	0	0	0	0	1	0	0	0	0	1	0	0
9	1008	0	0	0	0	0	1	0	0	0	1	0	0	1
10	1009	0	0	0	0	1	0	1	0	0	0	0	0	0
11	1010	0	0	0	0	0	1	0	0	0	1	0	0	1
12	1011	0	0	0	0	0	1	0	0	0	1	0	0	1
13	1012	0	0	0	1	0	0	0	1	0	0	0	0	0
14	1013	0	0	0	0	0	1	1	0	0	0	0	0	1
15	1014	0	0	0	0	1	0	1	0	0	0	0	0	1
16	1015	0	0	0	1	0	0	0	0	0	0	1	0	1
17	1016	0	1	0	0	0	0	0	0	0	0	1	0	0
18	1017	0	0	0	0	0	1	0	0	0	1	0	0	1
19	1018	0	0	0	0	0	1	0	0	0	1	0	0	1



# Simulator Wizard Walkthrough - 5

5. ... and builds a market simulator, ...

Enter assumptions for features and price, ...

... and see the impact on market share.

...complete with a diffusion model ...

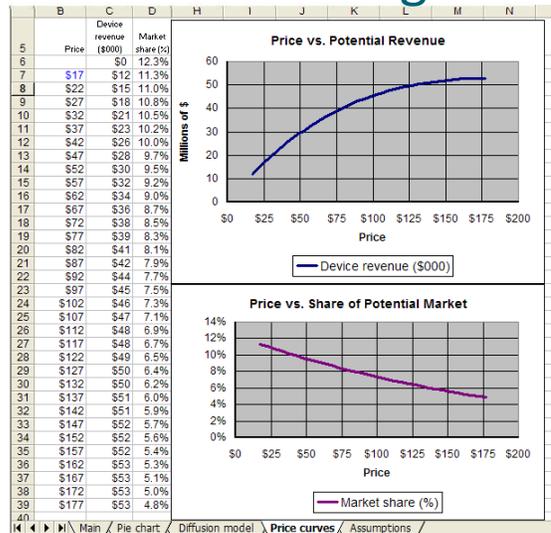
Cumulative Adoption Path for InCharge, \$110 Meter Price; \$8 GP; \$0.50 GI

Years	Market share
1	0.00
2	0.10
3	0.25
4	0.45
5	0.60
6	0.68
7	0.72
8	0.74
9	0.75
10	0.75
11	0.75
12	0.75

Years	Diffusion factor	Adoption
0	0.08	1%
1	0.19	1%
2	0.33	2%
3	0.5	4%
4	0.66	5%
5	0.8	6%
6	0.9	7%
7	0.95	7%
8	0.98	7%
9	0.99	7%
10	1	7%
11	1	7%
12	1	7%

## Simulator Wizard Walkthrough - 6

...and a price curve generator.



## Simulator Wizard Limitations

- Does not yet handle dynamic discrete-choice models, where parameters vary over time.
  - This is a future release
- Requires calibration to be effective.
  - Revealed preference data can be used here
  - Let a market expert apply factor adjustments
  - The program includes reasonable defaults for calibration
- Some complex specifications may require manual intervention.

# The StatWizards<sup>®</sup>

## Discrete-Choice Suite



## Suite Features

- Each wizard can stand alone, yet benefits from the other wizards
  - The Data Wizard can automatically incorporate designs produced by the Design Wizard
  - The Simulator Wizard can automatically incorporate information from both Data and Design Wizards
- Common look and feel resemble Microsoft wizards, making them easy to learn and use.
- Payback is immediate
  - Cost savings from just one project can exceed the cost of the entire suite



## Summary

- StatWizards® are Excel add-ins that facilitate the execution of discrete-choice projects.
- Each wizard can either stand alone or integrate with others.
- Combined, the suite cuts days off projects, reduces costs, and improves the accuracy of the results.
- Return on investment is immediate.



## Conclusion

If you do serious market research, the StatWizards® modules,

- Design Wizard
- Data Wizard
- Simulator Wizard

will improve the quality of your staff's work and make your life

**EASY**



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