

Kowalick-Taguchi Spreadsheet - Instructions

Welcome to the Taguchi Revolution!

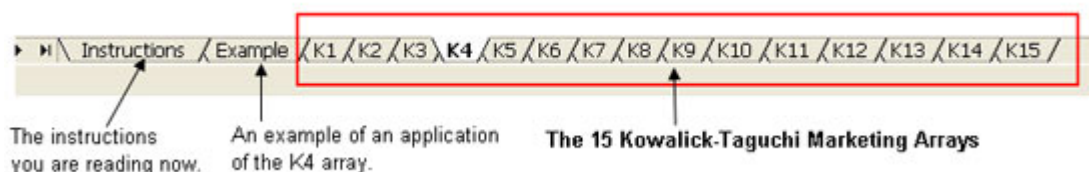
First of all, remember that you can do *anything* you want with this spreadsheet except one thing: **sell it**. That's it. Now let's start making money.

This spreadsheet is based on Dr. Genichi Taguchi's work on testing and optimization and my own research and consulting in the areas of marketing and advertising. Dr. Taguchi has been my friend for 19 years. By the way, in Japan his wife is more famous than him: she is a well-known host of a popular cooking program on Japanese TV! But I digress.

This spreadsheet is designed to increase the response rate of advertising campaigns through very smart testing. It has been used to increase the response rate of newspaper ads, direct mail, postcards, magazines, newspaper inserts, email, web sites, pay-per-click ads,...almost anything except radio and TV (for now!)

These 15 marketing testing arrays that you have in your hands can increase the response rate of your advertising campaigns (and the sales that they generate!) from 3 to 15 times. I personally tested (and refined) the spreadsheets on many consulting engagements and they are the result of more than 20 years of Taguchi practice and over 350 Taguchi experiments. Convinced? Not yet? Then do a search for "Taguchi Kowalick" on Google. Last time I checked there were 268 links.

Before we start, let me show you how to use the tabs on the bottom of this spreadsheet:



Ready?

The first step is to select the variables (Taguchi calls them **factors**) you are going to test. Examples of factors for ads are headline, image, offer, etc. After that, select the number of options or variations for each factor looking at the "Array Selection" table below. For example, the K4 Array (selected below) was created to test four 3-level factors and seven 2-level factors. This means that you can analyze the effects of 4 variables with 3 options and 7 variables with 2 options at the same time. In other words, *you are running 10,368 tests ads with only 18!* Try that with split testing or traditional statistics! Oh, miraculous Taguchi!

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ARRAY	6-Level Factors	3-Level Factors	2-Level Factors	Tested Ads
K1	0	7	1	4,374
K2	0	6	3	5,832
K3	0	5	5	7,776
K4	0	4	7	10,368
K5	0	3	9	13,824
K6	0	2	11	18,432
K7	0	1	13	24,576
K8	0	0	15	32,768
K9	1	6	0	4,374
K10	1	5	2	5,832
K11	1	4	4	7,776
K12	1	3	6	10,368
K13	1	2	8	13,824
K14	1	1	10	18,432
K15	1	0	12	24,576

After selecting the array, write down on a piece of paper (or your computer, or your Palm, whatever) the factors with the options. For example:

Array: K4 (seven 2-level factors and four 3-level factors)

Factor	Name	Option 1	Option 2	Option 3
A	Headline	Short	Long	-
B	Shipping	Paid	Free	-
C	Warranty	Yes	No	-
D	Financing	Yes	No	-
E	Freebie	Yes	No	-
F	Copy	Short	Long	-
G	Font	Arial	Verdana	-
H	Image	Man	Woman	Couple
I	Discount	0%	5%	10%
J	Background	White	Blue	Red
K	Price	\$497	\$499	\$599

The standard K4 Array looks like this:

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	FACTORS										
TEST	A	B	C	D	E	F	G	H	I	J	K
1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	2	1	2	2	2	2	2
3	1	1	1	2	1	2	1	3	3	3	3
4	1	1	2	1	1	1	1	2	2	3	3
5	1	1	2	1	2	1	2	3	3	1	1
6	1	1	2	2	1	2	1	1	1	2	2
7	1	2	1	1	1	1	2	1	3	2	3
8	1	2	1	1	2	2	1	2	1	3	1
9	1	2	1	2	1	1	1	3	2	1	2
10	2	1	1	1	1	2	1	3	2	2	1
11	2	1	1	1	2	1	1	1	3	3	2
12	2	1	1	2	1	1	2	2	1	1	3
13	2	1	2	1	1	1	2	3	1	3	2
14	2	1	2	1	2	2	1	1	2	1	3
15	2	1	2	2	1	1	1	2	3	2	1
16	2	2	1	1	1	2	1	2	3	1	2
17	2	2	1	1	2	1	1	3	1	2	3
18	2	2	1	2	1	1	2	1	2	3	1

Under Factor A, "1" means "Option 1", "2" means "Option 2", etc. If we replace the numbers with the actual options, we have a nice Japanese cooking recipe. But... don't do this in the spreadsheet - you will ruin the formulas! Do it on a piece of paper to help you prepare the test ads. Moving along, you should get something like this:

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FACTORS											
TEST	Head line	Ship ping	Warr anty	Finan cing	Freebie	Copy	Font	Image	Dis count	Back ground	Price
1	Short	Paid	Yes	Yes	Yes	Short	Arial	Man	0%	White	\$497
2	Short	Free	Yes	Yes	No	Short	Arial	Woman	5%	Blue	\$499
3	Short	Paid	Yes	No	Yes	Long	Arial	Couple	10%	Red	\$599
4	Short	Paid	No	Yes	Yes	Short	Arial	Woman	5%	Red	\$599
5	Short	Free	No	Yes	No	Short	Arial	Couple	10%	White	\$497
6	Short	Paid	No	No	Yes	Long	Arial	Man	0%	Blue	\$499
7	Short	Free	Yes	Yes	Yes	Short	Verdana	Man	10%	Blue	\$599
8	Short	Paid	Yes	Yes	No	Long	Verdana	Woman	0%	Red	\$497
9	Short	Paid	Yes	No	Yes	Short	Verdana	Couple	5%	White	\$499
10	Long	Paid	Yes	Yes	Yes	Long	Arial	Couple	5%	Blue	\$497
11	Long	Paid	Yes	Yes	No	Short	Arial	Man	10%	Red	\$499
12	Long	Free	Yes	No	Yes	Short	Arial	Woman	0%	White	\$599
13	Long	Free	No	Yes	Yes	Short	Arial	Couple	0%	Red	\$499
14	Long	Paid	No	Yes	No	Long	Arial	Man	5%	White	\$599
15	Long	Paid	No	No	Yes	Short	Arial	Woman	10%	Blue	\$497
16	Long	Paid	Yes	Yes	Yes	Long	Verdana	Woman	10%	White	\$499
17	Long	Paid	Yes	Yes	No	Short	Verdana	Couple	0%	Blue	\$599
18	Long	Free	Yes	No	Yes	Short	Verdana	Man	5%	Red	\$497

As an example, Test No. 10 (highlighted on the table above) will be:

Headline	Long
Shipping	Paid
Warranty	Yes
Financing	Yes
Freebie	Yes
Copy	Long
Font	Arial
Image	Couple
Discount	5%
Background	Blue
Price	\$497

Got the idea?

After you send the 18 tests (remember to include a tracking system), enter the response rates and circulation in the "Responses and Circulation" area of the spreadsheet. I made that area green to make it easier for you.

Two VERY IMPORTANT rules:

- **If you get a zero response for a test**, replace it with 10% of the lowest response that is not a zero (do this for all zeros);
- **If more than half of your test ads are zero** you are sending your test ads to too few people. Increase the circulation.

RESPONSES & CIRCULATIONS								
TEST	RESP 1	CIRC 1	RESP 2	CIRC 2	RESP 3	CIRC 3	RESP 4	CIRC 4
1	4.83	2,068	5.67	2,006	4.96	2,110	6.01	2,186
2	5.23	2,012	6.12	2,049	5.45	2,013	6.14	2,197
3	7.17	2,013	8.41	2,033	7.47	2,188	8.65	2,087
4	10.50	2,122	11.65	2,171	11.41	2,194	11.91	2,010
5	6.02	2,070	7.32	2,179	6.46	2,044	7.83	2,179
6	4.98	2,089	5.82	2,015	5.27	2,151	6.27	2,122
7	12.74	2,168	13.79	2,054	13.31	2,055	14.16	2,078
8	7.91	2,146	8.76	2,004	8.55	2,107	8.90	2,189
9	7.22	2,089	8.76	2,104	7.76	2,024	8.91	2,041
10	5.48	2,115	6.37	2,010	5.81	2,199	6.92	2,104
11	4.93	2,086	5.77	2,114	5.30	2,022	6.17	2,159
12	4.23	2,028	5.03	2,083	4.65	2,122	5.20	2,004
13	5.48	2,160	6.37	2,087	5.74	2,062	6.87	2,169
14	5.67	2,197	6.12	2,169	6.06	2,001	6.27	2,033
15	5.18	2,132	5.77	2,080	5.49	2,151	6.34	2,094
16	7.37	2,063	8.26	2,134	7.67	2,018	8.31	2,087
17	6.27	2,041	7.02	2,033	6.75	2,085	7.06	2,118
18	9.86	2,097	10.85	2,102	10.74	2,085	11.49	2,008

Now listen to this: **NEVER, NEVER do just one test campaign!** It's better to go to Vegas - you have more chances to make money there! Do A MINIMUM OF 2 campaigns, IDEALLY 3 campaigns or, if you have the time, the RECOMMENDED 4 campaigns (I call this Nirvana...) The table above shows an example of a completed spreadsheet with 4 responses. After you finish entering the responses, the magic starts: **the spreadsheet tells you which factors and options are influential, which are the best options and even estimates the optimum response!**

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Influential factors

Option	A	B	C	D	E	F	G	H	I	J	K
1	-24.10	-25.46	-25.46	-23.96	-23.96	-24.65	-24.65	-24.27	-25.27	-25.03	-24.62
2	-24.97	-23.49	-24.81	-24.63	-25.01	-24.73	-24.17	-24.54	-24.14	-24.59	-25.05
3								-24.74	-24.21	-23.98	-23.94
4											
5											
6											
Max	-24.10	-23.49	-24.81	-23.96	-23.96	-24.65	-24.17	-24.27	-24.14	-23.98	-23.94
Median	-24.10										
Deltas	-	1.02	-	0.55	0.55	-	-	-	-	0.53	0.57
Infl Factors		-23.49		-23.96	-23.96					-23.98	-23.94
% Infl	-	32%	-	17%	17%	-	-	-	-	17%	18%
Best Option	-	2	-	1	1	-	-	-	-	3	3
Optimum Signal to Noise Ratio											
	-21.295										
OPTIMUM RESPONSE											
	0.007										
	0.7%										

Influential factors with percentage of influence and best option

Estimated optimum response (fractional and percentage)

So, again in our example, the optimum ad (the one that uses the best options of the influential factors for optimum response) will have the Optimum Factor/Option Combination **B2 D1 E1 J3 K3**, or in the Factor/Option table:

Factor	Name	Option 1	Option 2	Option 3	% Influence
A	Headline	Short	Long	-	non-influential
B	Shipping	Paid	Free	-	32%
C	Warranty	Yes	No	-	non-influential
D	Financing	Yes	No	-	17%
E	Freebie	Yes	No	-	17%
F	Copy	Short	Long	-	non-influential
G	Font	Arial	Verdana	-	non-influential
H	Image	Man	Woman	Couple	non-influential
I	Discount	0%	5%	10%	non-influential
J	Background	White	Blue	Red	17%
K	Price	\$497	\$499	\$599	18%

What about the non-influential factors (A, C, F, G, H, I)? Can I ignore them or use a new Option in the Optimum Ad? NOOOOOOOOOOOO! You MUST use one of the Options you used in the test ads for the non-influential factors. Since they don't affect the response, choose the option that is less expensive or more convenient. But don't use a new one or you ruin the whole Taguchi experiment!

Well, there is more but this should get you started.

Finally, here are some recommendations:

- Don't forget to check the download link at <http://www.kowalick.com/freetaguchi/download.html> to get the latest revision of the spreadsheet.
- Subscribe to my newsletter (the box is at the top left of this page) to be notified of future spreadsheet revisions (free, of course).
- Visit my board at <http://kowalick.invisionzone.com> to post questions on the spreadsheet and the methodology, to brag about your sales increases using my system, etc.

Enjoy and...stay in touch!

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P.S. Fell free to write to me or call me. By the way, please call me Jim - only my mother used to call me James when I left food on the plate.