

Create Pivot Tables using Excel 2003 Version 1g 1

Creating Pivot Tables Using Excel 2003

Creating Six Kinds of Tables
Milo Schield

Member: International Statistical Institute
US Rep: International Statistical Literacy Project
Director, W. M. Keck Statistical Literacy Project

Slides at: [www.StatLit.org/pdf/
Create-Pivot-Tables-Excel-2003-6up.pdf](http://www.StatLit.org/pdf/Create-Pivot-Tables-Excel-2003-6up.pdf)

Create Pivot Tables using Excel 2003 Version 1g 2

Use this eight-question (Q1-Q8) survey data: B1:I241

Data for Q1-Q4 (B-E) is Binary: 0=No, 1=Yes.
Data for Q5-Q6 (F-G) is Ordinal (discrete): 1-5.
Data for Q7-Q8 (H-I) is Quantitative (ratio).

	A	B	C	D	E	F	G	H	I
1	ID	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
2	1	0	1	0	0	3	5	67	5
3	2	0	1	0	1	4	1	62	4
4	3	0	1	0	1	3	4	60	5
5	4	0	1	1	0	4	5	60	4
6	5	0	0	1	0	3	1	71	3

Excel instructions and data at:
www.StatLit.org/xls/2012Isaacson240Data.xls

Create Pivot Tables using Excel 2003 Version 1g 3

A: From the Data menu, Select "Pivot Table"

The screenshot shows the Excel 2003 interface with the 'Data' menu open. The 'PivotTable and PivotChart Report...' option is highlighted. The background shows a portion of the survey data table from slide 2.

Create Pivot Tables using Excel 2003 Version 1g 4

B: In Wizard, Select 'Excel List' and 'Pivot Table'

The screenshot shows the 'PivotTable and PivotChart Wizard - Step 1 of 3' dialog box. Under 'Where is the data that you want to analyze?', 'Microsoft Office Excel list or database' is selected. Under 'What kind of report do you want to create?', 'PivotTable' is selected.

Knowing how to create pivot tables is a *valuable skill*.
Knowing which is the better table is a *more valuable skill*.
Describing percentage data is a *very valuable skill*.
Comparing percentage data is an *extremely valuable skill*.

Create Pivot Tables using Excel 2003 Version 1g 5

C: Select Data Range Select location; Press Layout

The screenshot shows two dialog boxes from the wizard. The top one is 'Step 2 of 3' where the 'Range' is set to 'Data!\$B\$1:\$I\$241'. The bottom one is 'Step 3 of 3' where 'Existing worksheet' is selected and the location is '=R1S21'. A note indicates that including column A (Row ID) is optional.

Create Pivot Tables using Excel 2003 Version 1g 6

D: Table Layout shows Field Buttons for dataset

The screenshot shows the 'PivotTable and PivotChart Wizard - Layout' dialog box. It displays a diagram with 'PAGE', 'COLUMN', 'ROW', and 'DATA' fields. On the right, there are buttons for Q1 through Q8, which are being dragged into the diagram.

The GOAL

Goal: to create different kinds of pivot tables from this data set. All six tables will be indexed by the answers to Q1 and Q2. Creating each table starts with the same operations: steps A-D (see the previous slides).

Table 1: Counts: two-way (slides 8-10)
 Table 2: Averages: two-way (slides 11-13)
 Table 3: Summary statistics: two-group (slides 14-16)
 Table 4: 100% Column Table (slides 17-20)
 Table 5: 100% Row Table (slides 21-22)
 Table 6: Two-way table of percentages (slides 23-25)

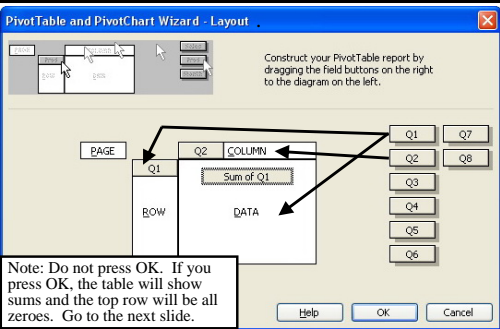
**1) Create Two-way Count Table
Use Q1 data; Index by Q1 & Q2**

Table 1:

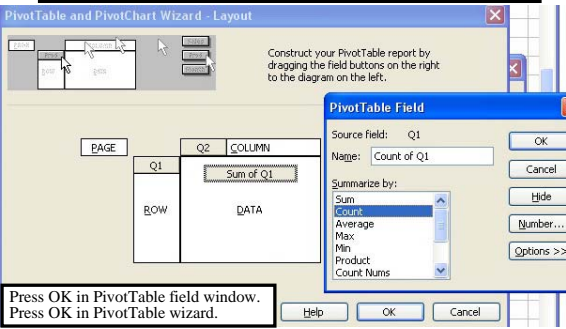
Count of Q1	Q2		
Q1	0 No	1 Yes	Grand Total
0 No	95	35	130
1 Yes	78	32	110
Grand Total	173	67	240

110 subjects answered Yes to Q1.
 67 subjects answered Yes to Q2.
 32 subjects answered Yes to Q1 and Yes to Q2.
 95 subjects answered No to Q1 and No to Q2.

**1a) Drag Q1 to Row;
Q2 to Column; Q1 to Data**



**1b) Double-click on Data Field;
Select Count in 'Summarize by'**



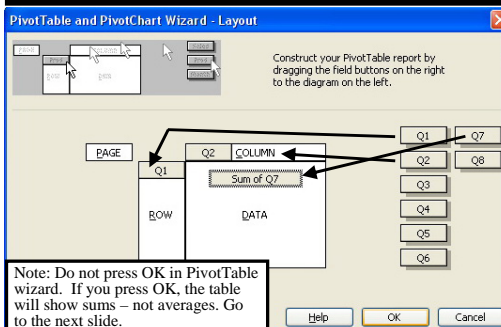
**2) Create two-way Averages:
Use Q7 Data. Index by Q1 & Q2**

Table 2.

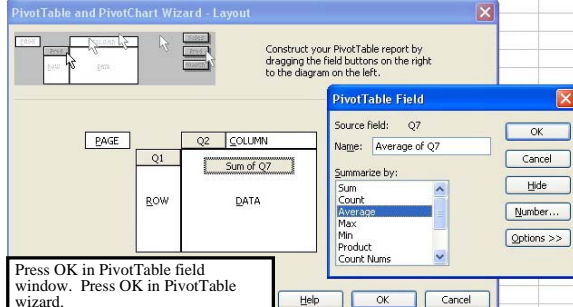
Average of Q7	Q2		
Q1	0 No	1 Yes	Grand Total
0 No	66.03	67.31	66.38
1 Yes	64.83	62.84	64.25
Grand Total	65.49	65.18	65.40

Average of Q7 data for all subjects is 65.4
 Average ... for those saying Yes to Q1 is 64.25
 Average ... for those saying Yes to Q1 and Yes to Q1 is 62.84

**2a) Drag as shown;
Change Sum to Average**



2b) Double-click on Data Field; Select Average in 'Summarize by'



Press OK in PivotTable field window. Press OK in PivotTable wizard.

3) Create two-group table of Statistics for Q7: Index by Q1

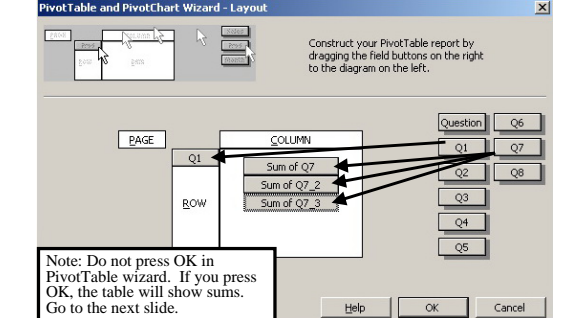
Table 3.

Q1	Data	Total
No	Average of Q7	66.38
	Count of Q7_2	130
	StdDev of Q7_3	11.38
Yes	Average of Q7	64.25
	Count of Q7_2	110
	StdDev of Q7_3	12.21
Total Average of Q7		65.40
Total Count of Q7_2		240
Total StdDev of Q7_3		11.79

65.4 is the overall average of [the answers to] Q7.

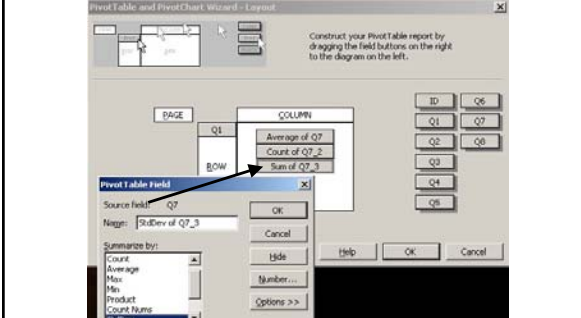
The average of [the answers to] Q7 for those who said Yes to Q1 was 64.25

3a) Drag Q1 to Row. Drag Q7 to body three times



Note: Do not press OK in PivotTable wizard. If you press OK, the table will show sums. Go to the next slide.

3b) Summarize by Average, Count and Std. Deviation



Double-click on Sum of Q2 to get PivotTable Field window. Select "Options": Don't press "OK"

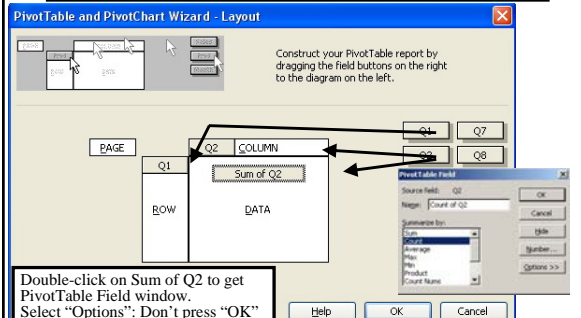
4) Create 100% Column Table; Index on Q1 and Q2.

Table 4

Count of Q2	Q2		
Q1	0 No	1 Yes	Grand Total
0 No	55%	52%	54%
1 Yes	45%	48%	46%
Grand Total	100%	100%	100%

Columns are 100% wholes; Rows are parts.
 46% of all subjects said Yes to Q1.
 48% of [subjects who said Yes to Q2] said Yes to Q1.
 55% of [subjects who said No to Q2] said No to Q1.

4a: Drag as show; Change Sum to Count



Double-click on Sum of Q2 to get PivotTable Field window. Select "Options": Don't press "OK"

**4b) Select "Options>>";
In Show data, select "% of column"**

When done, press OK in PivotTable field window.
Press OK in PivotTable wizard.

**5) Create 100% Row Table;
Index on Q1 and Q2.**

Table 5.

Count of Q2	Q2		
Q1	0 No	1 Yes	Grand Total
0 No	73%	27%	100%
1 Yes	71%	29%	100%
Grand Total	72%	28%	100%

Rows are 100% wholes; Columns are parts.
28% of all subjects said Yes to Q2.
29% of subjects who said Yes to Q1 said Yes to Q2.
73% of subjects who said No to Q1 said No to Q2.

**5b) Select "Options>>";
In Show data, select "% of row"**

The first step (5a) for Table 5 is the same as the first step (4a) for Table 4.

Press OK in PivotTable field window.
Press OK in PivotTable wizard.

**6) Create Two Way Table of Q3;
Index on Q1 and Q2.**

Table 6.

Average of Q3	Q2		
Q1	No 0	Yes 1	Grand Total
No 0	81%	71%	78%
Yes 1	37%	34%	36%
Grand Total	61%	54%	59%

Q3 is the common part. Rows and columns are wholes
59% of all subjects said Yes to Q3.
36% of subjects who said Yes to Q1 said Yes to Q3.
54% of subjects who said Yes to Q2 said Yes to Q3.
34% of those who said Yes to Q1 and Q2 said Yes to Q3.

**6a) Drag Q3 to Data area;
Index on Q1 (row) and Q2 (col).**

6b) Change Sum to Average

Press OK in PivotTable field window.
Press OK in PivotTable wizard.