

VIIH Create Pivot Tables using Excel 2008 1

Creating Pivot Tables Using Excel 2008, 2010 or 2013

by
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*Slides and Demo output at: www.StatLit.org/pdf/Create-Pivot-Tables-Excel-2008-6up.pdf
[pdf/Create-Pivot-Tables-using-Excel-Demo.pdf](http://www.StatLit.org/pdf/Create-Pivot-Tables-using-Excel-Demo.pdf)*

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The Goal

Goal: to show the steps involved in creating six different kinds of pivot tables from the same data set. Creating each of the tables starts with steps A-D (shown on the following slides).

Table 1: Two-way count table (slides 9-11)
 Table 2: Two-way table of averages (slides 12-13)
 Table 3: Two-group table of statistics (slides 14-16)
 Table 4: 100% Column Table (slides 17-19)
 Table 5: 100% Row Table (slides 20-21)
 Table 6: Two-way table of percentages (slides 22-23)

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A: Open/Download Data File; Press 'Enable Editing' button

Excel data at:
www.statlit.org/XLS/Create-Pivot-Tables-using-Excel-Data.xls

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Create Excel Pivot Tables from this data: A1:H241

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

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Row			L	M
2	0	1	0	0	3	5	67	5	2	Table 1: Create pivot table			
3	0	1	0	1	4	1	62	4	3				
4	0	1	0	1	3	4	60	5	4				
5	0	1	1	0	4	5	60	4	5				
6	0	0	1	0	3	1	71	3	6				

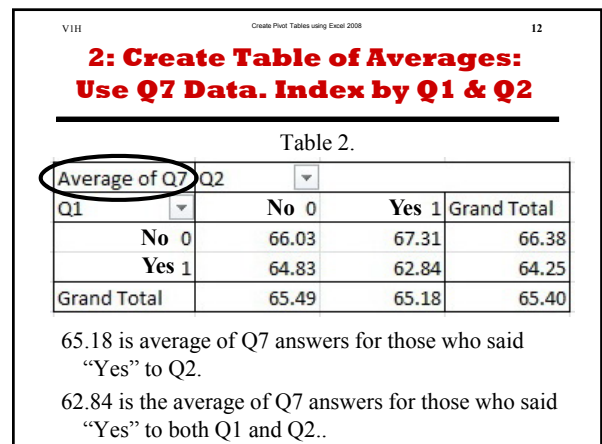
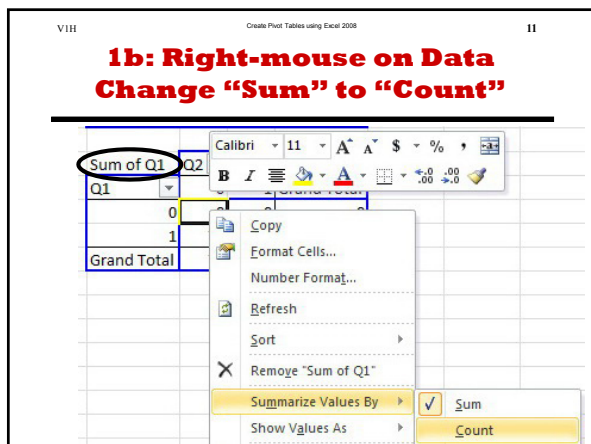
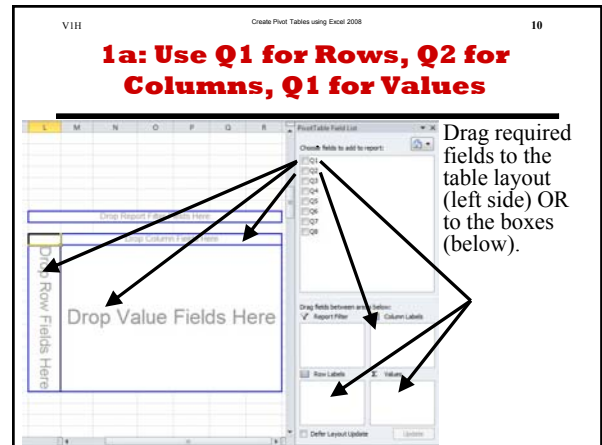
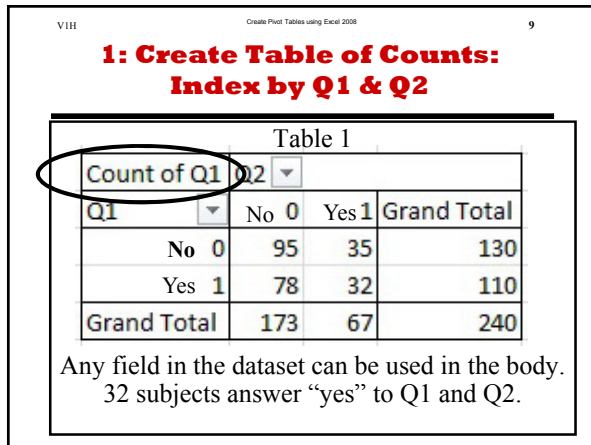
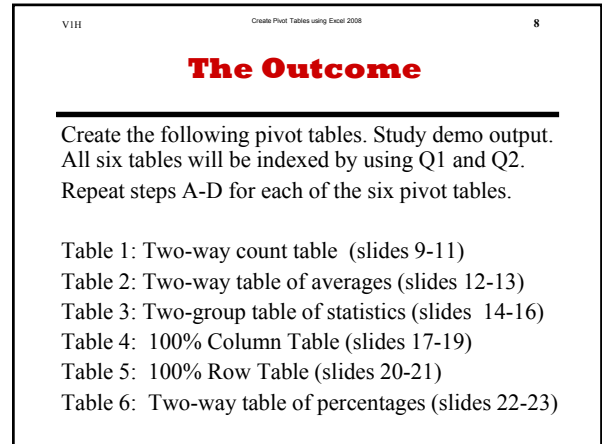
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B: From the Insert ribbon, Select "Pivot Table"

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C: In Wizard, Select 'Table/Range' and 'Location'

Choose the data that you want to analyze
 Select a table or range
 Table/Range: Data!\$A\$1:\$H\$241
 Use an external data source
 Choose where you want the PivotTable report to be placed
 New Worksheet
 Existing Worksheet
 Location: Data!\$M\$3
 Add this data to the Data Model



2a: Drag data fields as needed; Change "Sum" to "Average"

3: Create 3 Statistics for Q7; Index by Q1 & Q2

	Q1	Q2	0	1	Grand Total
Data	No	Yes	0	1	Grand Total
Average of Q7	No	Yes	66.03	67.31	66.38
Count of Q7	No	Yes	95.00	35.00	130.00
StdDev of Q7_2	No	Yes	11.86	10.05	11.38
1 Average of Q7	No	Yes	64.83	62.84	64.25
Count of Q7	No	Yes	78.00	32.00	110.00
StdDev of Q7_2	No	Yes	12.48	11.62	12.21
Total Average of Q7			65.49	65.18	65.40
Total Count of Q7			173.00	67.00	240.00
Total StdDev of Q7_2			12.12	10.98	11.79

65.40 is average of Q7 for all respondents.
64.25 is average of Q7 for those who said Yes to Q1.

3a: Drag Q1 to Rows; Q2 to Cols. Drag Q7 three times to Values

Q1	Q2	0	1	Grand Total
0	Sum of Q7	6273	2356	8629
0	Sum of Q7_2	6273	2356	8629
0	Sum of Q7_3	6273	2356	8629
1	Sum of Q7	5057	2011	7068
1	Sum of Q7_2	5057	2011	7068
1	Sum of Q7_3	5057	2011	7068
Total	Sum of Q7	11330	4367	15697
Total	Sum of Q7_2	11330	4367	15697
Total	Sum of Q7_3	11330	4367	15697

If problem dragging Q7 third time to same place, drag to different place Values may stack horizontally. Cause unknown. Acceptable.

3b: Change Show Values to Average, Count and StdDev.

Q1	Q2	0	1
0	Average of Q7	66.03157895	67.31428571
0	Count of Q7_2		
1	Average of Q7		
1	Count of Q7_2		
1	Sum of Q7_3		
Total	Average of Q7		
Total	Count of Q7_2		
Total	Sum of Q7_3		

Right-mouse Q7; change to Average.; Right-mouse Q7_2; change to Count. Right-mouse Q7_3; change to StdDev.

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

Table 4.

Count of Q2	Q2	No	Yes	Grand Total
Q1	No	0	1	Grand Total
No	0	54.91%	52.24%	54.17%
Yes	1	45.09%	47.76%	45.83%
Grand Total		100.00%	100.00%	100.00%

45.83% of all respondents said "Yes" to Q1.
47.76% of those who said Yes to Q2 said Yes to Q1.

4a: Double-click on Data Field; Select Count in 'Summarize by'

4b: Select "Show Values as" Select "% of Column Total"

The screenshot shows a PivotTable with 'Count of Q2' as the value field. The 'Show Values As' menu is open, and '% of Column Total' is selected. The PivotTable shows counts for 'No' (0) and 'Yes' (1) across 'Q1' categories.

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

Table 5.

Count of Q2	Q2			
Q1	No	Yes	Grand Total	
No	0	73.08%	26.92%	100.00%
Yes	1	70.91%	29.09%	100.00%
Grand Total		72.08%	27.92%	100.00%

27.92% of all respondents said "yes" to Q2.
 29.09% of those saying yes to Q1 said Yes to Q1.
 The first step for Table 5 is the same as 4a for Table 4.

5a: Select "Show Values as"; Select "% of Row Total"

The screenshot shows the same PivotTable as in slide 4b, but with '% of Row Total' selected in the 'Show Values As' menu. The PivotTable now displays percentages for each row.

6: Create two-way table of Q3; Index by Q1 and Q2.

Table 6.

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

59% of respondents said Yes to Q3.
 36% of those who said Yes to Q1 said Yes to Q3.
 Of those who said Yes to Q1, 36% said Yes to Q3.

6a: Change Sum to Average; Format data as Percentages

The screenshot shows the 'Value Field Settings' dialog box for 'Sum of Q3'. The 'Source Name' is 'Q3', the 'Custom Name' is 'Average of Q3', and 'Show Values As' is set to 'Percentages of Row Total'. The 'Summarize value field by' is set to 'Average'.

Conclusion

Pivot tables are one of the more powerful features of Excel.
 Knowing how to create pivot tables is a *valuable skill*.
 Knowing which is the better table is a *more valuable skill*.
 Knowing how to read, interpret and communicate the data summarized in pivot tables is a *most valuable skill*.