

# Pivot Tables and How They Saved My Marriage

*A presentation of the  
BCG Institute for Workforce Development (BCGi)  
May 24, 2013*



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# Today's Agenda

- Pivot tables: So what's the big deal?
- Creating Pivot Tables: A step by step approach
- Advanced pivoting tools: 1) Re-using pivot tables, 2) using the “drill-down” feature
- Examples of Pivot Tables: 1) In Adverse Impact Analyses, and 2) in Compensation Analyses
- Recommendations/Summary
- Q&A



# Pivot tables: So what's the big deal?

- **Pivot tables are** . . . incredible tools designed to provide quick interpretation of large volumes of data.
- **Pivot tables are** . . . great for answering questions such as:
  - Average sale per representative
  - Average compensation by gender/race
  - Average score by gender and race/ethnic group
  - Gender and race/ethnic composition of those who are hired/not hired, promoted/not promoted, terminated/retained, etc.
  - Gender and race/ethnic composition of those who pass/fail any step within an overall selection process



# Pivot tables: So what's the big deal?

- **Pivot tables are** . . . great at slicing/summarizing data in a variety of different ways in a very short amount of time.
- **Pivot tables are** . . . great at taking a project that previously took 8 hours (or more) and completing it in 15 minutes (or less).
- **Pivot tables are** . . . great at ensuring your counts *exactly* match your data (thus eliminating human error).
- **Pivot tables are not** . . . 1) going to clean-up after your dog, 2) take out the trash, 3) mow your lawn, or 4) do your taxes.



# Pivot tables: So what's the big deal?

The big deal is that in 1 minute they can take data that looks like this:

	A	B	C	D	E	F	G
1	<b>Applicant Identifier</b>	<b>Race</b>	<b>Gender</b>	<b>Meet BQ</b>	<b>Withdrawn</b>	<b>Hired/Not Hired</b>	<b>Disposition Code/Last Status</b>
2		1 White	Female	Yes	No	Hired	4 - Hired
3		2 American Indian or Alaska Native	Female	Yes	No	Not Hired	1 - Test
4		3 U	Female	Yes	No	Not Hired	1 - Test
5		4 White	Female	Yes	No	Not Hired	1 - Test
6		5 White	Female	Yes	No	Hired	4 - Hired
7		6 U	Male	Yes	No	Not Hired	1 - Test
8		7 Hispanic or Latino	Male	Yes	No	Not Hired	1 - Test
9		8 White	Male	Yes	No	Not Hired	1 - Test
10		9 Hispanic or Latino	Male	Yes	No	Not Hired	1 - Test
11		10 White	Female	Yes	No	Not Hired	1 - Test
12		11 Black or African American	Female	Yes	No	Hired	4 - Hired
13		12 White	Female	Yes	No	Not Hired	1 - Test
14		13 Hispanic or Latino	Female	Yes	No	Not Hired	1 - Test
15		14 White	Male	Yes	Yes	Not Hired	Withdrawn



# Pivot tables: So what's the big deal?

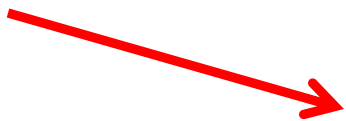
And make it look like this:

	A	B	C	D	E
1	AAP	Sacramento			
2					
3			<b>Hire/Not Hire</b>		
4	<b>Gender</b>	<b>Values</b>	<b>Hired</b>	<b>Not Hired</b>	<b>Grand Total</b>
5	<b>Male</b>	Count (#)	42	78	120
6		Percent (%)	35.00%	65.00%	100.00%
7	<b>Female</b>	Count (#)	14	126	140
8		Percent (%)	10.00%	90.00%	100.00%
9	<b>U</b>	Count (#)		14	14
10		Percent (%)	0.00%	100.00%	100.00%
11	<b>Total Count (#)</b>		<b>56</b>	<b>218</b>	<b>274</b>
12	<b>Total Percent (%)</b>		<b>20.44%</b>	<b>79.56%</b>	<b>100.00%</b>



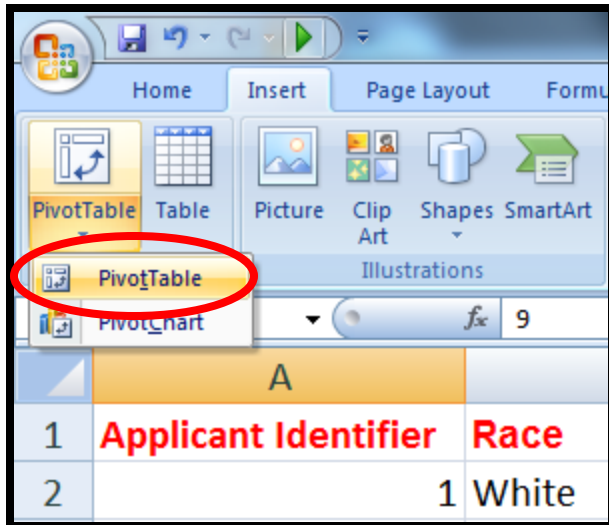
# Pivot tables: It's all about the data

- The unique values within each of the fields become the “categories” within your pivot tables.
- To refine your pivot tables you simply need to create fields that further categorize your data
- Example: Hire/Not Hire (below)

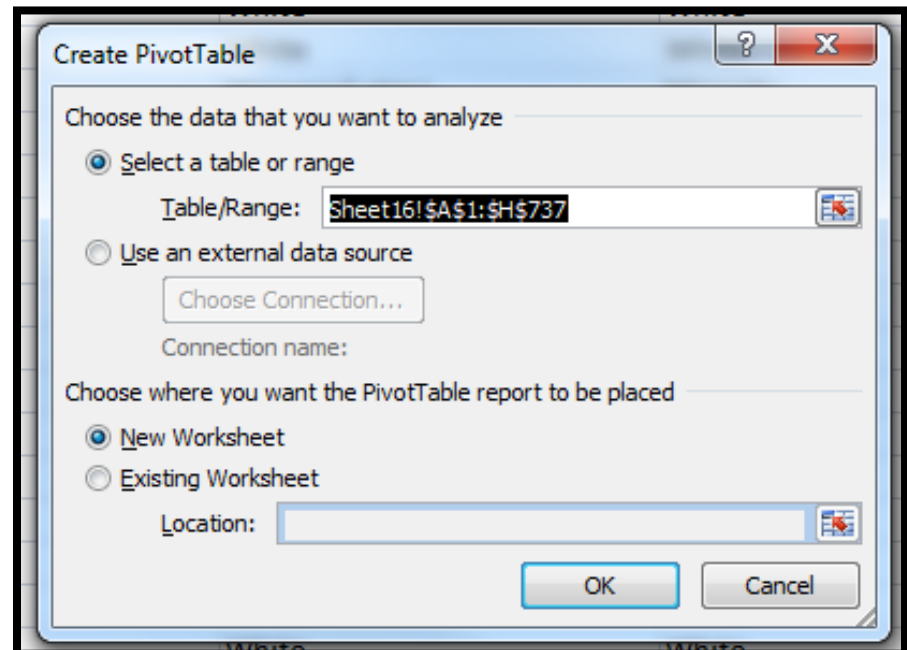


	A	B	C	D	E	F	G
1	<b>Applicant Identifier</b>	<b>Race</b>	<b>Gender</b>	<b>Meet BQ</b>	<b>Withdrawn</b>	<b>Hired/Not Hired</b>	<b>Disposition Code/Last Status</b>
2		1 White	Female	Yes	No	Hired	4 - Hired
3		2 American Indian or Alaska Native	Female	Yes	No	Not Hired	1 - Test
4		3 U	Female	Yes	No	Not Hired	1 - Test
5		4 White	Female	Yes	No	Not Hired	1 - Test
6		5 White	Female	Yes	No	Hired	4 - Hired
7		6 U	Male	Yes	No	Not Hired	1 - Test
8		7 Hispanic or Latino	Male	Yes	No	Not Hired	1 - Test
9		8 White	Male	Yes	No	Not Hired	1 - Test
10		9 Hispanic or Latino	Male	Yes	No	Not Hired	1 - Test
11		10 White	Female	Yes	No	Not Hired	1 - Test
12		11 Black or African American	Female	Yes	No	Hired	4 - Hired
13		12 White	Female	Yes	No	Not Hired	1 - Test
14		13 Hispanic or Latino	Female	Yes	No	Not Hired	1 - Test
15		14 White	Male	Yes	Yes	Not Hired	Withdrawn

# Creating Pivot Tables: A Step by Step Approach



- Select the tab *Insert* – *PivotTable*
- This will initiate the PivotTable option



# Creating Pivot Tables: A Step by Step Approach

- Step 1: Select the data range for use in the pivot table.
- Step 2: Determine whether you want the pivot table on a new worksheet or on the same worksheet.

	A	B	C	D	E	F
1	Applicant Identifier	Race	Gender	Meet BQ	Withdrew	Hired/Not Hired
265	264	White	Female	Yes	No	Not Hired
266	265	White			No	Not Hired
267	266	White			No	Hired
268	267	White			No	Not Hired
269	268	Hispanic or Latin			No	Not Hired
270	269	White			No	Hired
271	270	White			No	Not Hired
272	271	White			No	Not Hired
273	272	White			No	Not Hired
274	273	U			No	Not Hired
275	274	White	Male	Yes	No	Hired
276						
277						

Step 1

Step 2

# Creating Pivot Tables: A Step by Step Approach

- At this point you have successfully created a pivot table structure within which to begin “dragging-and-dropping” fields.

The screenshot displays an Excel spreadsheet with a PivotTable named 'PivotTable5' in cell C4. The PivotTable is currently empty. To the right, the 'PivotTable Field List' task pane is open, showing a list of fields to be added to the report. The fields are: Applicant Identifier, Race, Gender, Meet BQ, Withdrew, Hire/Not Hire, Disposition Code/Last Status, JobCode, Job Title, Job FEO Category, Job Group Code, AAP, and Application Date. Below the list, there are four areas for dragging fields: Report Filter, Column Labels, Row Labels, and Values. A yellow arrow points from the 'Job FEO Category' field in the list to the 'Job FEO Category' field in the 'Column Labels' area. A circular inset shows a magnified view of the 'Job FEO Category' field in the 'Column Labels' area, with a green checkmark indicating it has been successfully added.

PivotTable5

To build a report, choose fields from the PivotTable Field List

PivotTable Field List

Choose fields to add to report:

- Applicant Identifier
- Race
- Gender
- Meet BQ
- Withdrew
- Hire/Not Hire
- Disposition Code/Last Status
- JobCode
- Job Title
- Job FEO Category
- Job Group Code
- AAP
- Application Date

Drag fields between areas below:

- Report Filter
- Column Labels
- Row Labels
- Values

Defer Layout Update

# Creating Pivot Tables: A Step by Step Approach

PivotTable Layout Display:

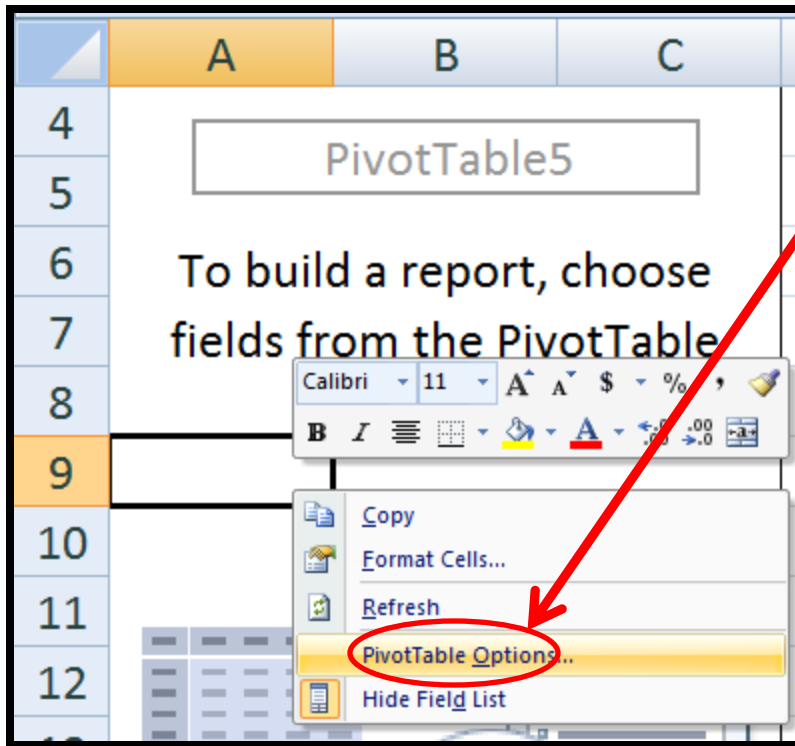
The screenshot displays an Excel spreadsheet with a PivotTable layout. The PivotTable area is defined by a blue border and contains the following text:

- Drop Column Fields Here (at the top)
- Drop Row Fields Here (on the left side)
- Drop Data Items Here (in the center)

A yellow arrow points from the PivotTable Field List task pane to the PivotTable area. The task pane is titled "PivotTable Field List" and contains the following fields:

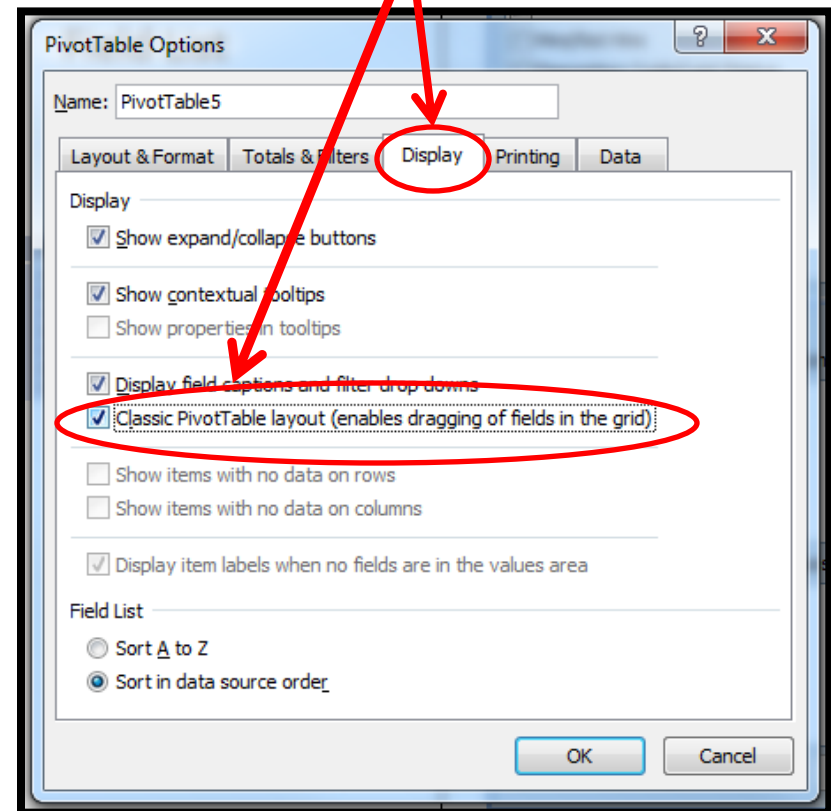
- Choose fields to add to report:
  - Applicant Identifier
  - Race
  - Gender
  - Meet BQ
  - Withdrew
  - Hire/Not Hire
  - Disposition Code/Last Status
  - JobCode
  - Job Title
  - Job EEO Category
  - Job Group Code
  - App
  - Application Date
- Drag fields between areas below:
  - Report Filter (checked)
  - Column Labels
  - Row Labels
  - Values (with a summation symbol  $\Sigma$ )
- Defer Layout Update (checkbox)
- Update (button)

# Creating Pivot Tables: A Step by Step Approach



1. Right Click and select "PivotTable Option"

2. Check the "Classic PivotTable layout"



# Creating Pivot Tables: A Step by Step Approach

The screenshot displays an Excel PivotTable with the following configuration:

- Report Filter:** AAP
- Column Labels:** Hired/Not Hired
- Row Labels:** Gender
- Values:** Gender

The PivotTable area includes the following text labels:

- Drop Page Fields Here
- Drop Columns Here
- Drop Data Items Here
- Drop Row Labels Here

The PivotTable Field List on the right shows the following fields:

- Applicant Identifier
- Race
- Gender
- Meet BQ
- Withdrew
- Hire/Not Hire
- Disposition Code/Last Status
- JobCode
- Job Title
- Job EEO Category
- Job Group Code
- AAP
- Application Date

The PivotTable Field List also shows the following areas:

- Report Filter: AAP
- Column Labels: Hired/Not Hired
- Row Labels: Gender
- Values: Gender

A yellow arrow points from the 'AAP' field in the Field List to the 'AAP' field in the Report Filter area.

# Creating Pivot Tables: A Step by Step Approach

- Page fields: AAP
- Column Fields: Hired/Not Hired
- Row Fields: Gender
- Data Items: Gender

Notice how page fields operate like “layered” filters.

	A	B	C	D	E	F
1	AAP	Sacramento				
2						
3	<b>Count of Gender</b>	<b>Hired/Not Hired</b>				
4	<b>Gender</b>	<b>Hired</b>	<b>Not Hired</b>	<b>Grand Total</b>		
5	Female	14	126	140		
6	Male	42	78	120		
7	U		14	14		
8	<b>Grand Total</b>	<b>56</b>	<b>218</b>	<b>274</b>		
9						
10						

PivotTable Field List

Choose fields to add to report:

- Applicant Identifier
- Race
- Gender
- Meet BQ
- Withdrew
- Hired/Not Hired
- Disposition Code/Last Status
- Job Code
- Job Title
- Job EEO Category

Drag fields between areas below:

Report Filter: AAP

Column Labels: Hired/Not Hired

Row Labels: Gender

Values: Count of Gender

Defer Layout Update Update



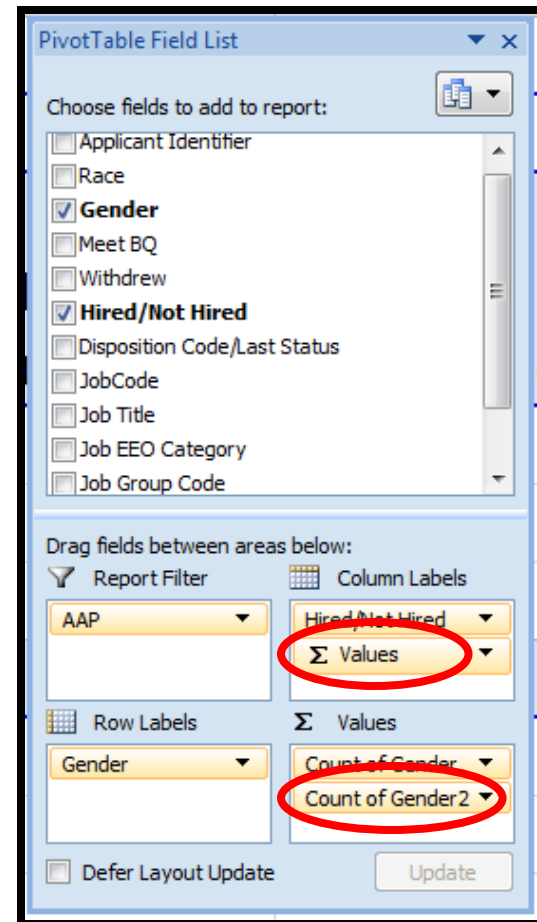
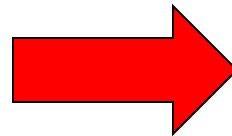
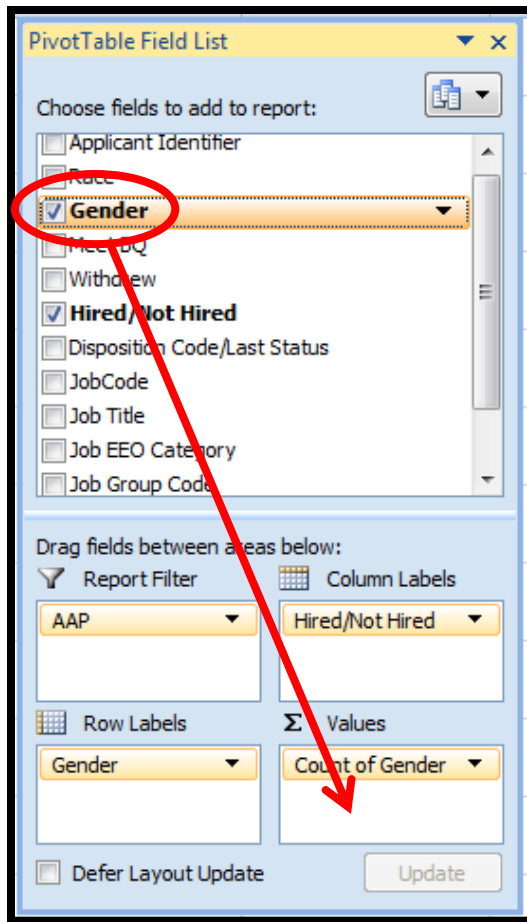
# Creating Pivot Tables: A Step by Step Approach

- Question: How do I include selection rates in my pivot table?
  - Answer: Selection rates are just another way of displaying counts by gender (so the pivot table simply requires gender to be displayed in a different format).

	A	B	C	D	E
1	AAP	Sacramento			
2					
3			Hire/Not Hire		
4	Gender	Values	Hired	Not Hired	Grand Total
5	Male	Count (#)	42	78	120
6		Percent (%)	35.00%	65.00%	100.00%
7	Female	Count (#)	14	126	140
8		Percent (%)	10.00%	90.00%	100.00%
9	U	Count (#)		14	14
10		Percent (%)	0.00%	100.00%	100.00%
11	<b>Total Count (#)</b>		<b>56</b>	<b>218</b>	<b>274</b>
12	<b>Total Percent (%)</b>		<b>20.44%</b>	<b>79.56%</b>	<b>100.00%</b>

# Creating Pivot Tables: A Step by Step Approach

- Step 1: “Drag and drop” gender into “values”. This should generate a value under the “column labels” and “values”.



# Creating Pivot Tables: A Step by Step Approach

- Step 2: “Drag and drop” the following field “ $\Sigma$  values” to the “row labels” to set-up the pivot table accordingly.

PivotTable Field List

Choose fields to add to report:

- Applicant Identifier
- Race
- Gender
- Meet BQ
- Withdrew
- Hired/Not Hired
- Disposition Code/Last Status
- JobCode
- Job Title
- Job EEO Category
- Job Group Code

Drag fields between areas below:

Report Filter: AAP

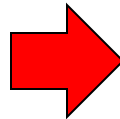
Column Labels: Hired/Not Hired

Σ Values: **Σ Values** (circled in red)

Row Labels: Gender

Σ Values: Count of Gender, Count of Gender2

Defer Layout Update

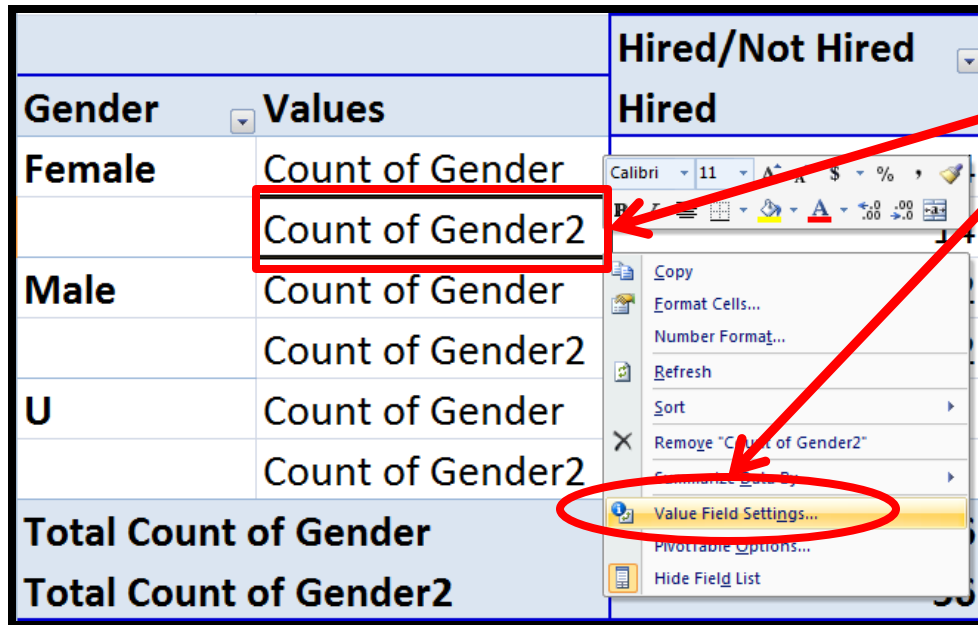


	A	B	C	D	E	
1	AAP	Sacramento				
2						
3			Hired/Not Hired			
4	Gender	Values	Hired	Not Hired	Grand Total	
5	Female	Count of Gender	14	126	140	
6		Count of Gender2	14	126	140	
7	Male	Count of Gender	42	78	120	
8		Count of Gender2	42	78	120	
9	U	Count of Gender		14	14	
10		Count of Gender2		14	14	
11	Total Count of Gender			56	218	274
12	Total Count of Gender2			56	218	274

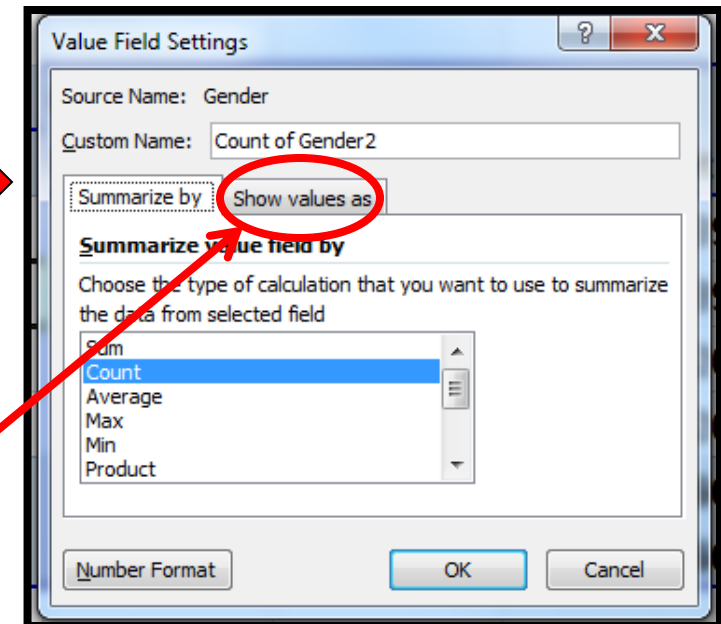
# Creating Pivot Tables: A Step by Step Approach

- Step 3: Format the “count of gender 2” to show the passing rate.

Gender	Values	Hired/Not Hired
Female	Count of Gender	Hired
	Count of Gender2	
Male	Count of Gender	
	Count of Gender2	
U	Count of Gender	
	Count of Gender2	
Total Count of Gender		
Total Count of Gender2		



1. Right Click on “count of gender2” and select “Value Field Settings”



Value Field Settings

Source Name: Gender

Custom Name: Count of Gender2

Summarize by: Show values as

Summarize value field by

Choose the type of calculation that you want to use to summarize the data from selected field

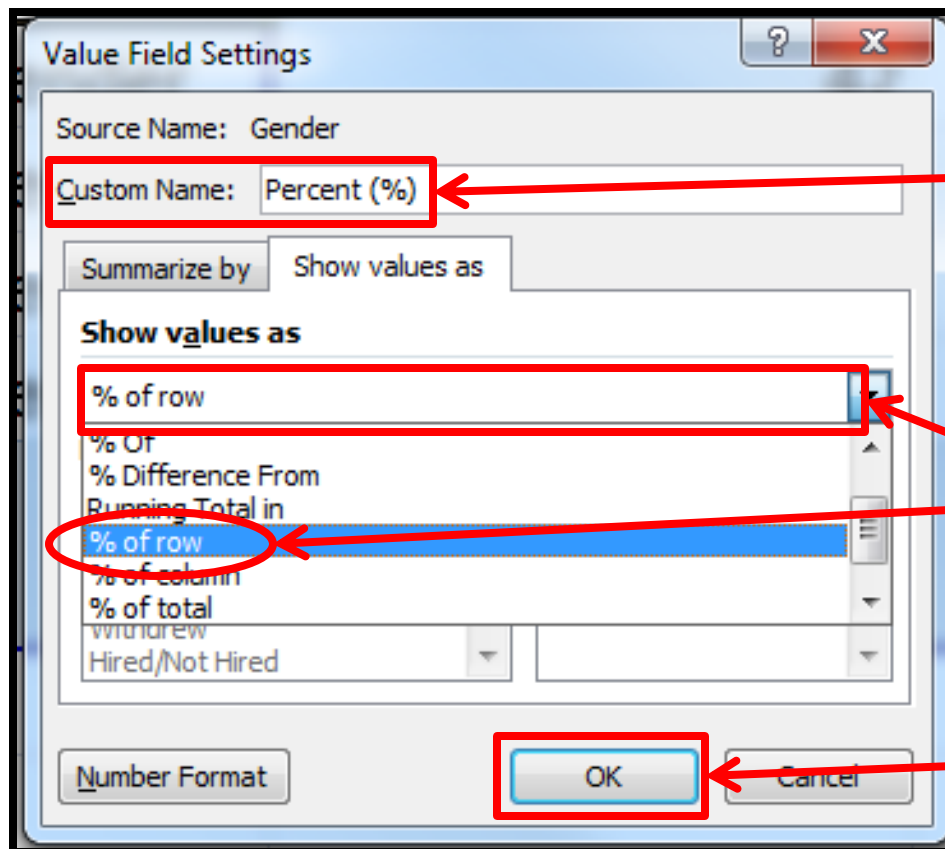
Sum  
Count  
Average  
Max  
Min  
Product

Number Format OK Cancel

2. Click on the “show value as”

# Creating Pivot Tables: A Step by Step Approach

- Step 3: Format the “count of gender 2” to show the passing rate.


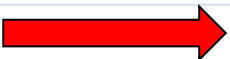
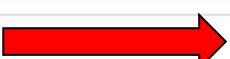


3. Rename the field to “Percent (%)”.

4. Under the drop down box, select “% of row”.

5. Click “OK”, the pivot table should now show the selection rate.

# Creating Pivot Tables: A Step by Step Approach

	A	B	C	D	E
1	AAP	Sacramento <input type="text"/>			
2					
3			Hire/Not Hire <input type="text"/>		
4	<b>Gender</b> <input type="text"/>	<b>Values</b>	<b>Hired</b>	<b>Not Hired</b>	<b>Grand Total</b>
5	<b>Male</b>	Count (#)	42	78	120
6		Percent (%)	35.00%	65.00%	100.00%
7	<b>Female</b>	Count (#)	14	126	140
8		Percent (%)	10.00%	90.00%	100.00%
9	<b>U</b>	Count (#)		14	14
10		Percent (%)	0.00%	100.00%	100.00%
11	<b>Total Count (#)</b>		<b>56</b>	<b>218</b>	<b>274</b>
12	<b>Total Percent (%)</b>		<b>20.44%</b>	<b>79.56%</b>	<b>100.00%</b>

# Creating Pivot Tables: A Step by Step Approach

- One of the most beneficial features of pivot tables is the ability to copy-and-paste tables for use in repetitive analyses. For example:

- Generating the same counts/percentages for a different location, job group, job title
- Generating the same counts/percentages but for race instead of gender

	A	B	C	D	E
1	AAP	Sacramento			
2					
3			Hired/Not Hired		
4	<b>Gender</b>	Values	Hired	Not Hired	Grand Total
5	Male	Count of Gender	42	78	120
6		Percent (%)	35.00%	65.00%	100.00%
7	Female	Count of Gender	14	126	140
8		Percent (%)	10.00%	90.00%	100.00%
9	U	Count of Gender		14	14
10		Percent (%)	0.00%	100.00%	100.00%
11	<b>Total Count of Gender</b>		<b>56</b>	<b>218</b>	<b>274</b>
12	<b>Total Percent (%)</b>		<b>20.44%</b>	<b>79.56%</b>	<b>100.00%</b>
13					
14					
15	AAP	Sacramento			
16					
17			Hired/Not Hired		
18	<b>Race</b>	Values	Hired	Not Hired	Grand Total
19	White	Count of Gender	37	116	153
20		Percent (%)	24.18%	75.82%	100.00%
21	Black or African American	Count of Gender	3	9	12
22		Percent (%)	25.00%	75.00%	100.00%
23	Hispanic or Latino	Count of Gender	9	29	38
24		Percent (%)	23.68%	76.32%	100.00%
25	Asian	Count of Gender	1	12	13
26		Percent (%)	7.69%	92.31%	100.00%

# Advanced Pivoting Tools: Re-using Pivot Tables

- Important Tip(s):
  - Pivot tables can be updated automatically if the data changes
  - All pivot tables based on the same data can be updated at once





# Advanced Pivoting Tools: Drill-Downs

- Important Tip(s):
  - Double-clicking on specific counts within a pivot table enables the user to “drill-down” and view specific records

	A	B	C	D	E
1	AAP	Sacramento			
2					
3			Hire/Not Hire		
4	<b>Gender</b>	<b>Values</b>	<b>Hired</b>	<b>Not Hired</b>	<b>Grand Total</b>
5	<b>Male</b>	Count (#)	42	78	120
6		Percent (%)	35.00%	65.00%	100.00%
7	<b>Female</b>	Count (#)	14	126	140
8		Percent (%)	10.00%	90.00%	100.00%
9	<b>U</b>	Count (#)		14	14
10		Percent (%)	0.00%	100.00%	100.00%
11	<b>Total Count (#)</b>		<b>56</b>	<b>218</b>	<b>274</b>
12	<b>Total Percent (%)</b>		<b>20.44%</b>	<b>79.56%</b>	<b>100.00%</b>

The 126 records will be “sent” to a separate worksheet.

	A	B	C	D	E	F	G
1	<b>Applicant Identifier</b>	<b>Race</b>	<b>Gender</b>	<b>Meet BQ</b>	<b>Withdraw</b>	<b>Hired/Not Hired</b>	<b>Disposition Code/Last Status</b>
119		143 American	Female	Yes	No	Not Hired	1 - Test
120		138 White	Female	Yes	No	Not Hired	1 - Test
121		137 American	Female	Yes	No	Not Hired	1 - Test
122		135 White	Female	Yes	Yes	Not Hired	Withdraw
123		132 White	Female	Yes	No	Not Hired	1 - Test
124		123 Black or A	Female	Yes	No	Not Hired	1 - Test
125		124 White	Female	Yes	No	Not Hired	1 - Test
126		125 Hispanic c	Female	Yes	No	Not Hired	1 - Test
127		126 White	Female	Yes	Yes	Not Hired	Withdraw

# Examples of Pivot Table

# Examples of Pivot Tables

Use: Data Checks

	A	B	C	D	E
1	AAP	Sacramento			
2	Job Group Code	3A			
3					
4	<b>Count of Gender</b>	<b>Gender</b>			
5	<b>Race</b>	<b>Male</b>	<b>Female</b>	<b>U</b>	<b>Grand Total</b>
6	White	64	50		114
7	Black or African American	3	7		10
8	Hispanic or Latino	16	17		33
9	Asian	7	2		9
10	American Indian or Alaska Native	2	5		7
11	Native Hawaiian or Other Pacific Islander		1		1
12	Two or More Races	6	5	1	12
13	C	5	7		12
14	U	3	4	10	17
15	<b>Grand Total</b>	<b>106</b>	<b>98</b>	<b>11</b>	<b>215</b>

# Examples of Pivot Tables

Use: Adverse Impact Analyses

22	AAP	Sacramento			
23	Job Group Code	3A			
24	Meet BQ	Yes			
25	Withdrew	No			
26					
27			<b>Hire/Not Hire</b>		
28	<b>Gender</b>	<b>Values</b>	<b>Hired</b>	<b>Not Hired</b>	<b>Grand Total</b>
29	<b>Male</b>	Count (#)	39	51	90
30		Percent (%)	43.33%	56.67%	100.00%
31	<b>Female</b>	Count (#)	10	70	80
32		Percent (%)	12.50%	87.50%	100.00%
33	<b>U</b>	Count (#)		11	11
34		Percent (%)	0.00%	100.00%	100.00%
35	<b>Total Count (#)</b>		<b>49</b>	<b>132</b>	<b>181</b>
36	<b>Total Percent (%)</b>		<b>27.07%</b>	<b>72.93%</b>	<b>100.00%</b>

# Live Adverse Impact Pivot Table



[Sample Adverse Impact Data Set](#)

# Examples of Pivot Tables

Use: Compensation Analyses

	A	B	C	D	E
1	AAP	Sacramento			
2					
3			<b>Gender</b>		
4	<b>Job Title</b>	<b>Values</b>	<b>Male</b>	<b>Female</b>	<b>Grand Total</b>
5	<b>Technician I</b>	Count of Gender	149	136	285
6		Average of Salary	\$30,625	\$29,137	\$29,915
7		Average of TIC (yrs.)	9.4	4.6	7.1
8		Average of TIJ (yrs.)	7.2	2.2	4.8
9	<b>Technician II</b>	Count of Gender	50	47	97
10		Average of Salary	\$32,083	\$31,219	\$31,664
11		Average of TIC (yrs.)	8.8	5.7	7.3
12		Average of TIJ (yrs.)	5.9	1.9	3.9
13	<b>Technician III</b>	Count of Gender	7	5	12
14		Average of Salary	\$34,855	\$35,601	\$35,166
15		Average of TIC (yrs.)	7.3	7.8	7.5
16		Average of TIJ (yrs.)	4.2	2.4	3.4

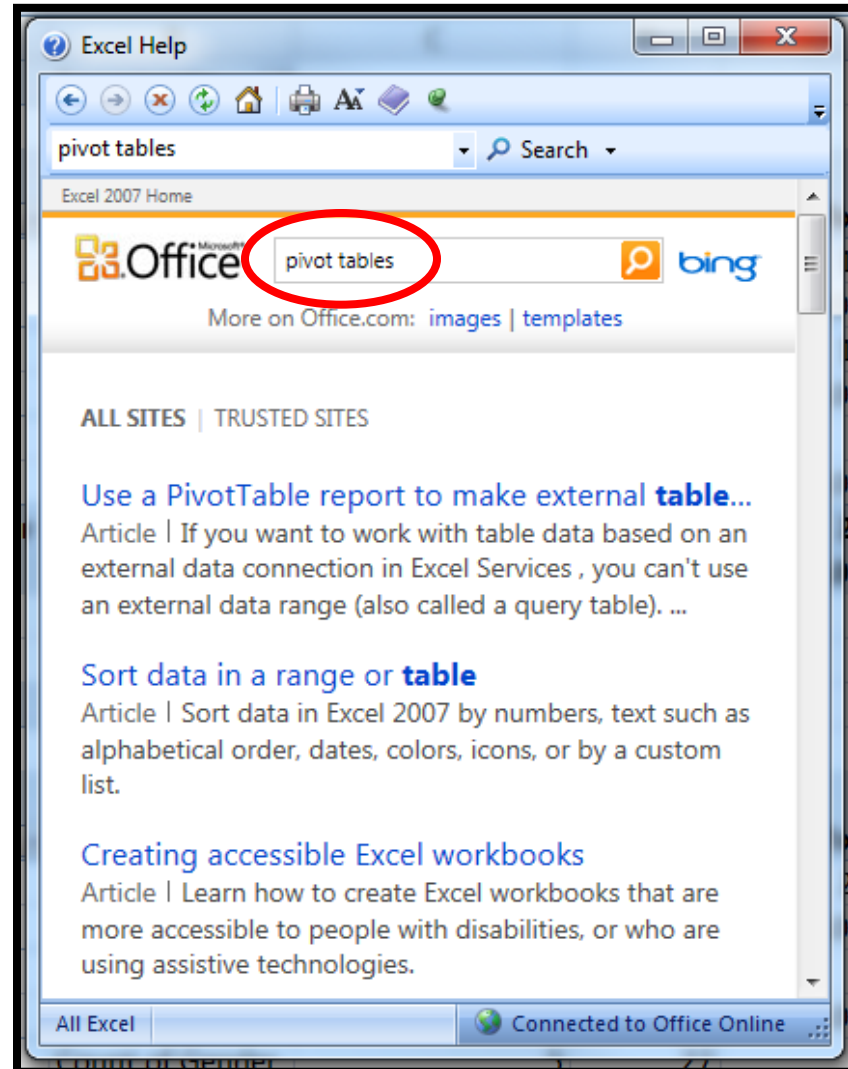
# Live Compensation Analysis Pivot Table



*Sample Compensation Analysis  
Data Set*

# Recommendation/Summary

- Excel offers many useful tools for exploring and understanding pivot tables.
- There is no better training than just “diving in” and trying new things. Play with pivot tables and you will get very good, very fast.





# Questions

