



University Information  
Technology Services

# Microsoft Office Excel 2013

PivotTables and PivotCharts

University Information Technology Services

Training, Outreach, Learning Technologies and Video Production

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# University Information Technology Services

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PivotTables & Pivot Charts

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## **Introduction**

This booklet is the companion document to the Excel 2013: PivotTables and Pivot Charts workshop. The booklet will explain PivotTables and Pivot Charts, how to create them, and how to use them to quickly analyze large quantities of data.

## **Learning Objectives**

After completing the instructions in this booklet, you will be able to:

- Understand what PivotTables and Pivot Charts are
- Insert PivotTables
- Insert Pivot Charts
- Filter information in your PivotTable and Pivot Chart
- Understand what Slicers are
- Insert Slicers

# PivotTables

PivotTables are a powerful tool in Excel that will allow you to quickly summarize, sort, filter, and analyze data. They can handle large amounts of data in lists and tables by organizing data, on the fly, by different rows and columns. This is faster, and more flexible for analyzing your data, as you don't need to rely on formulas.

For example, you could have a spreadsheet that contains information on salespeople, products sold, regions, items sold, etc. Using a PivotTable, you can quickly organize the data so different relationships are visible (e.g. Who is the top salesperson? What product has sold the most?) (See Figure 1).

Salesperson	Product	Region	Customer	Date	Item Cost	No.Items	Total Cost
Vaughn, Harlon	Captain Recliner	NE	B&B Spaces	01/03/11	\$ 340.95	9	\$ 3,068.55
Norman, Rita	Media Armoire	SE	Home USA	01/03/11	\$ 340.95	2	\$ 681.90
Christensen, Jill	Bamboo End Table	NW	Ellington Designs	01/04/11	\$ 79.99	7	\$ 559.93
Norman, Rita	Bamboo Coffee Table	SE	Ellington Designs	01/05/11	\$ 168.95	3	\$ 506.85
Byrd, Asa	Bamboo End Table	SE	B&B Spaces	01/05/11	\$ 79.99	12	\$ 959.88
Owen, Robert	Chameleon Couch	SW	Ellington Designs	01/07/11	\$ 799.95	13	\$ 10,399.35
Maynard, Susan	Bamboo End Table	NE	Home USA	01/08/11	\$ 79.99	10	\$ 799.90
Norman, Rita	Chameleon Couch	SE	Home USA	01/08/11	\$ 799.95	2	\$ 1,599.90
Norman, Rita	Media Armoire	SE	Home USA	01/08/11	\$ 340.95	6	\$ 2,045.70
Norman, Rita	Media Armoire	SE	B&B Spaces	01/11/11	\$ 340.95	13	\$ 4,432.35

Figure 1 - Sample Sales Spreadsheet

Note: When working with PivotTables, the data should contain your titles in a single row, and the table should not contain any empty cells.

## Creating PivotTables

The following will show you how to create a PivotTable using the sample sales spreadsheet as an example:

1. In the Ribbon, click on the **Insert** tab (See Figure 2).

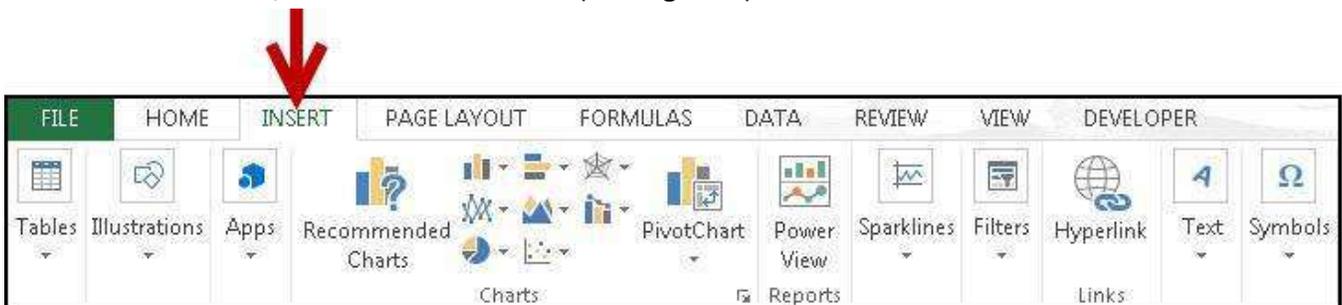


Figure 2 - Insert Tab

- Under the *Tables* grouping, click on **PivotTables** (See Figure 3).



Figure 3 - PivotTable

- The *Create PivotTable* window will appear. Excel will automatically select the data it thinks you want to use to create your *PivotTable* (See Figure 4).

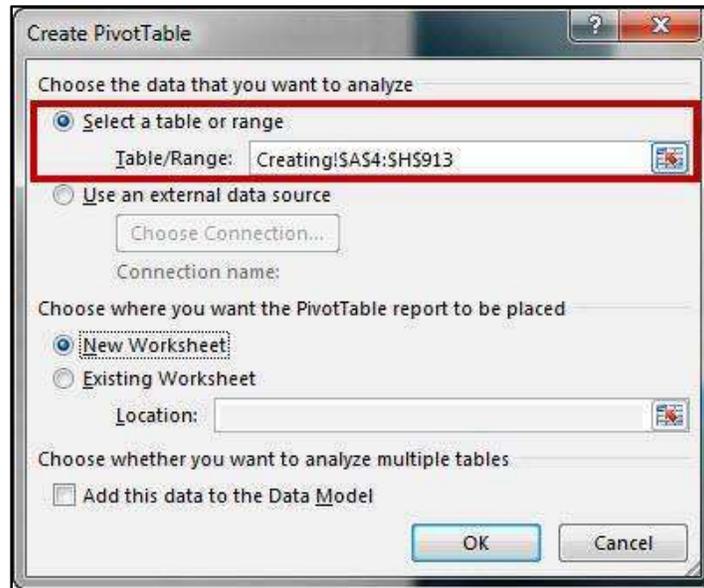


Figure 4 - Create PivotTable Window

*Note:* To select a different range from what Excel has suggested, click on the **cell selection** box (  ) and use the mouse to select a new range.

- Under *Choose where you want the PivotTable report to be placed*, select **New Worksheet** (See Figure 5).



Figure 5 - Create PivotTable on a New Worksheet

- Click on **OK**.

6. The *PivotTable* will be created in a new worksheet (See Figure 6).

The screenshot shows an Excel spreadsheet with columns E through N. Columns E, F, G, and H contain data: Date, Item Cost, No. Items, and Total Cost. A PivotTable is being created in a new worksheet, indicated by the 'PivotTable2' label and a dialog box that says 'To build a report, choose fields from the PivotTable Field List:'. The PivotTable Fields task pane is open on the right, showing a list of fields to add to the report: Salesperson, Product, Region, Customer, Date, Item Cost, No. Items, and Total Cost. The task pane also includes sections for 'Drag fields between areas below:' with FILTERS, COLUMNS, ROWS, and VALUES areas.

Date	Item Cost	No. Items	Total Cost
01/03/11	\$ 340.95	9	\$ 3,068.55
01/03/11	\$ 340.95	2	\$ 681.90
01/04/11	\$ 79.99	7	\$ 559.93
01/05/11	\$ 168.95	3	\$ 506.85
01/05/11	\$ 79.99	12	\$ 959.88
01/07/11	\$ 799.95	13	\$10,399.35
01/08/11	\$ 79.99	10	\$ 799.90
01/08/11	\$ 799.95	2	\$ 1,599.90
01/08/11	\$ 340.95	6	\$ 2,045.70
01/11/11	\$ 340.95	13	\$ 4,432.35
01/11/11	\$ 168.95	10	\$ 1,689.50
01/11/11	\$ 340.95	4	\$ 1,363.80
01/12/11	\$ 168.95	11	\$ 1,858.45
01/12/11	\$ 340.95	7	\$ 2,386.65
01/13/11	\$ 79.99	11	\$ 879.89
01/13/11	\$ 799.95	6	\$ 4,799.70
01/14/11	\$ 340.95	14	\$ 4,773.30
01/14/11	\$ 168.95	10	\$ 1,689.50
01/19/11	\$ 340.95	4	\$ 1,363.80
01/20/11	\$ 79.99	20	\$ 1,599.80
01/21/11	\$ 340.95	8	\$ 2,727.60
01/23/11	\$ 79.99	11	\$ 879.89
01/25/11	\$ 340.95	13	\$ 4,432.35

Figure 6 - PivotTable Added

7. The *PivotTable Fields* will appear on the right of the screen (See Figure 7).

The screenshot shows the PivotTable Fields task pane. It has a title bar 'PivotTable Fields' and a close button. Below the title bar is a section 'Choose fields to add to report:' with a gear icon and a dropdown arrow. A list of fields follows, each with an unchecked checkbox: Salesperson, Product, Region, Customer, Date, Item Cost, No. Items, and Total Cost. Below this list is a section 'MORE TABLES...' with a dotted line. Underneath is the instruction 'Drag fields between areas below:' followed by four areas: FILTERS, COLUMNS, ROWS, and VALUES, each with a corresponding icon.

Figure 7 - PivotTable Fields

## Analyzing Data with PivotTables

After creating your PivotTable, the *PivotTable Fields* list will display the data ranges that you selected, and four areas that will make up your PivotTable (Filters, Columns, Rows, and Values). You can quickly move fields in and out of these areas to view your data in different ways.

For example, we want to use the PivotTable to analyze the data and determine how many sales a salesperson has made of each product.

1. Drag-and-drop your **fields** into the *filter, column, rows, and values* boxes (See Figure 8).

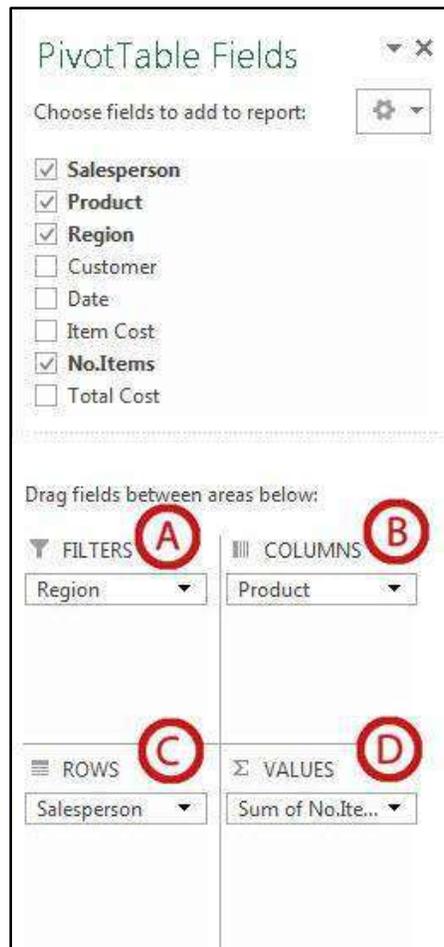


Figure 8 - Setting up Fields

- A. *Filters* area fields are shown as top-level report filters above the *PivotTable* (See Figure 8).
- B. *Columns* area fields are shown as *Column Labels* at the top of the *PivotTable* (See Figure 8).
- C. *Rows* area fields are shown as *Row Labels* on the left side of the *PivotTable* (See Figure 8).
- D. *Values* area fields are shown as summarized numeric values in the *PivotTable* (See Figure 8).

- The PivotTable will change to show the fields in their respective locations, showing total sales for each sales person by product (See Figure 9).

Region	(All)					
Sum of No.Items	Column Labels					
Row Labels	Bamboo Coffee Table	Bamboo End Table	Captain Recliner	Chameleon Couch	Media Armoire	Grand Total
Arnold, Cole	154	104	138	121	91	608
Byrd, Asa	150	69	155	101	110	585
Christensen, Jill	209	118	151	117	183	778
Kelly, Icelita	19	150	90	174	166	599
Leon, Emily	154	124	80	105	169	632
Livingston, Lynette	79	122	74	107	142	524
Lucas, John	77	130	75	172	62	516
Maynard, Susan	147	145	125	116	212	745
McCullough, Scott	93	62	72	90	121	438
Norman, Rita	134	145	79	128	172	658
Owen, Robert	157	120	150	249	170	846
Vaughn, Harlon	239	199	214	199	217	1068
<b>Grand Total</b>	<b>1612</b>	<b>1488</b>	<b>1403</b>	<b>1679</b>	<b>1815</b>	<b>7997</b>

Figure 9 - PivotTable Results

### Filtering the PivotTable

The following shows how to filter information within a *PivotTable*:

- Next to a *Field Header*, click the **dropdown** arrow (See Figure 10).

Region	(All)				
Sum of No.Items	Column Labels				
Row Labels	Bamboo Coffee Table	Bamboo End Table	Captain Recliner	Chameleon Couch	
Arnold, Cole	154	104	138	121	
Byrd, Asa	150	69	155	101	
<b>Grand Total</b>	<b>304</b>	<b>173</b>	<b>293</b>	<b>222</b>	

Figure 10 - Dropdown Button

2. A *Dropdown* menu will appear with values for the field listed below (See Figure 11).

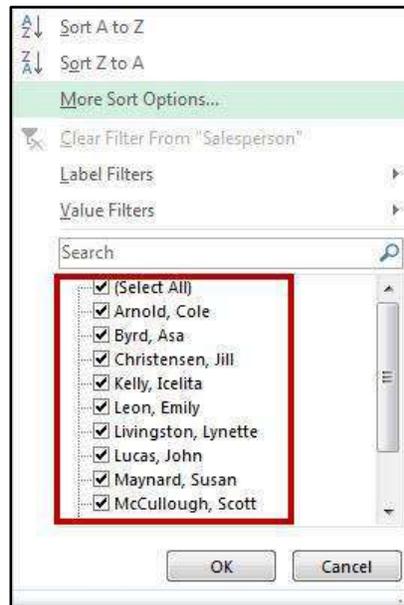


Figure 11 – Filter Values

3. Click the **checkboxes** to select/deselect values that you want to filter for.

4. Click on **OK** to apply your filter.

5. A *filter* icon will appear next to the *dropdown* arrow to indicate a filter has been applied to the field (See Figure 12).

Region	(All)				
Sum of No. Items	Column Labels				
Row Labels		Bamboo Coffee Table	Bamboo End Table	Captain Recliner	Chameleon Couch
Arnold, Cole		154	104	138	121
Byrd, Asa		150	69	155	101
<b>Grand Total</b>		<b>304</b>	<b>173</b>	<b>293</b>	<b>222</b>

Figure 12 - Filter Applied

6. To remove the filter, click on the **dropdown** arrow.

7. The *dropdown* menu will appear. Click on **Clear Filter From** to remove the filter (See Figure 13).

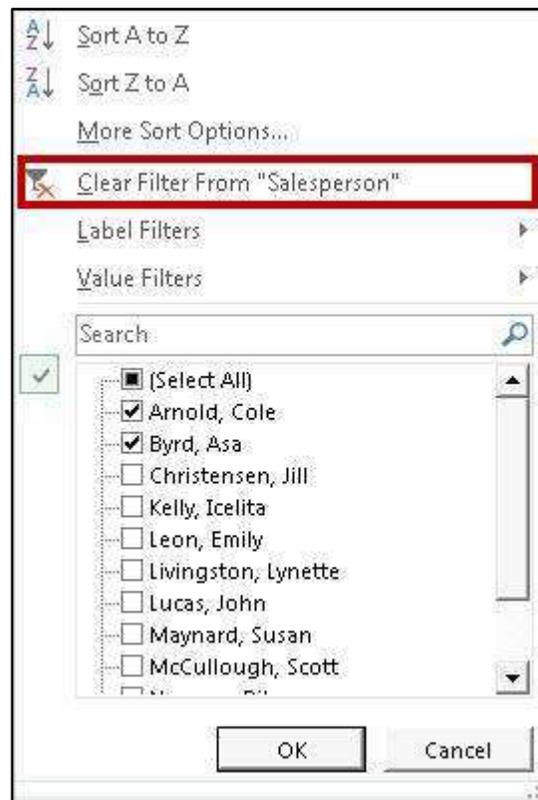


Figure 13 - Clear Filter From

## PivotCharts

Similar to *PivotTables*, PivotCharts can be used to quickly summarize, sort, filter, and analyze large amounts of data, and display that data as a visual representation. After creating your PivotTable, you can create a PivotChart using a variety of available charts (e.g. Pie, Line, Bar) that uses the same field settings.

## Creating PivotCharts

The following will show you how to create a PivotChart from an existing PivotTable:

1. In the Ribbon, click on the **Insert** tab (See Figure 14).

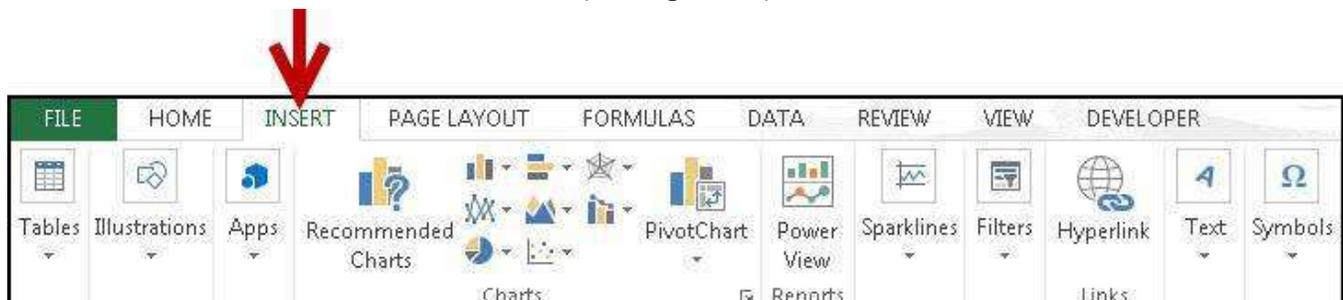


Figure 14 - Insert Tab

2. Under the *Charts* grouping, click on **PivotChart** (See Figure 15).

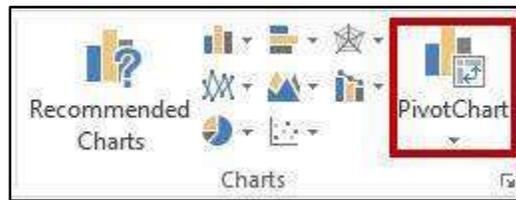


Figure 15 – PivotChart

3. The *Insert Chart* window will appear. Select a **chart** from the options presented (See Figure 16).

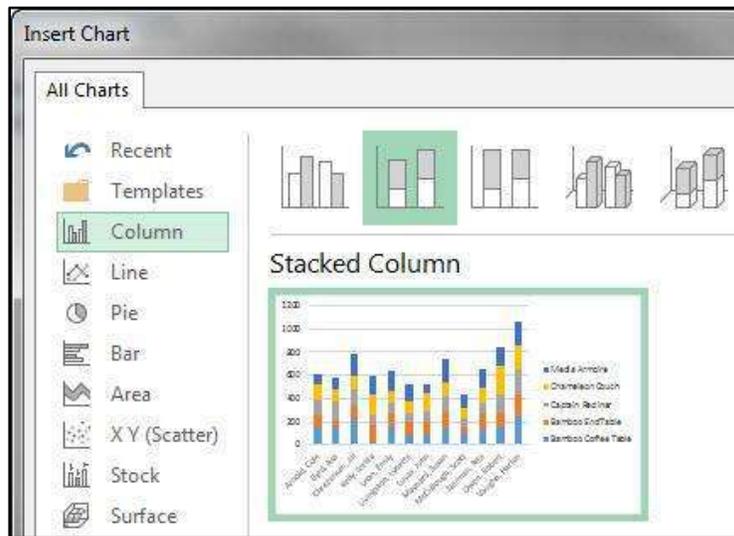


Figure 16 - Insert Chart

4. Click on **OK**.

5. The *PivotChart* will be placed into your worksheet (See Figure 17).

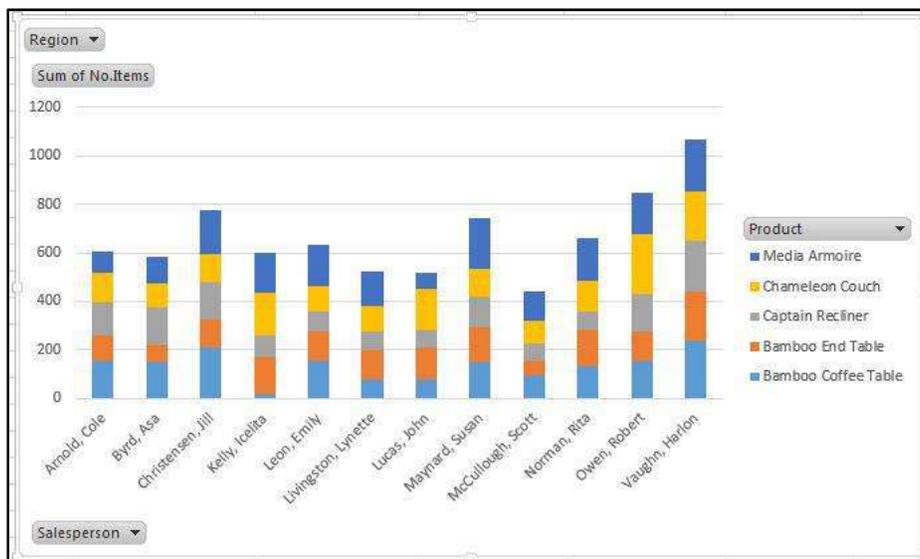


Figure 17 - PivotChart Inserted

6. The *PivotChart Fields* will appear on the right of the screen (See Figure 18).



Figure 18 - PivotChart Fields

*Note:* You can alter the information that is displayed the same way as with PivotTables. See Analyzing Data with PivotTables for more information.

## Filtering the PivotChart

The following shows how to filter information within a *PivotChart*:

1. Next to a *Field Header*, click the **dropdown** arrow (See Figure 19).

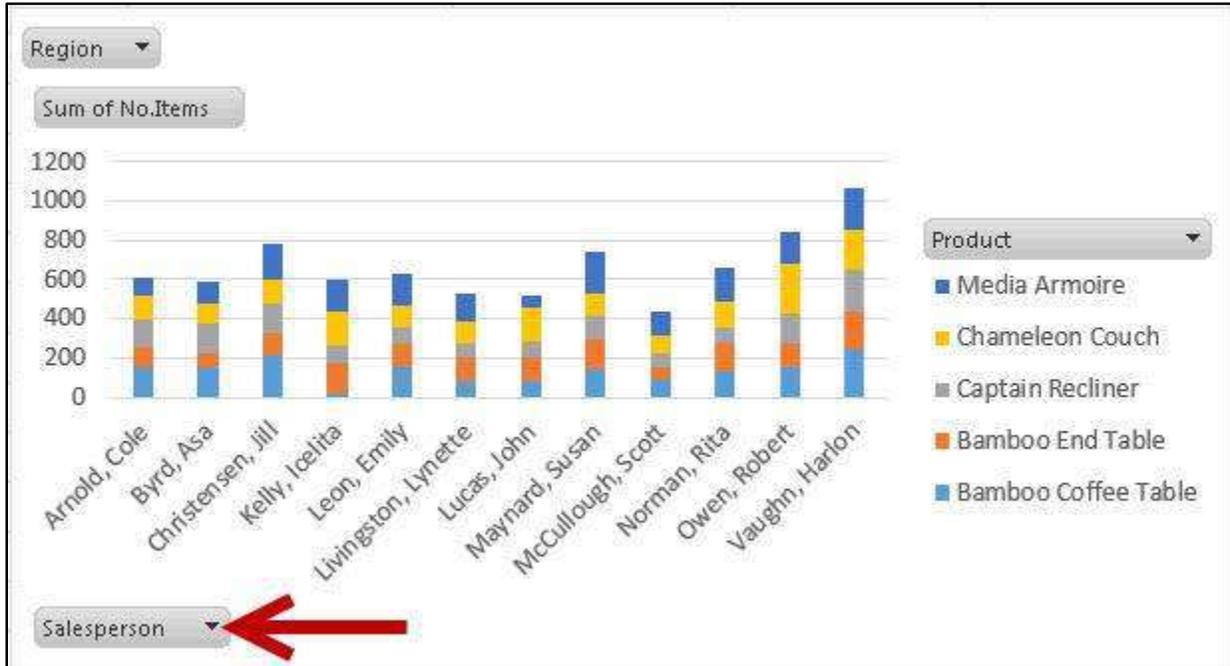


Figure 19 - Dropdown Button

2. A *Dropdown* menu will appear with values for the field listed below (See Figure 20).

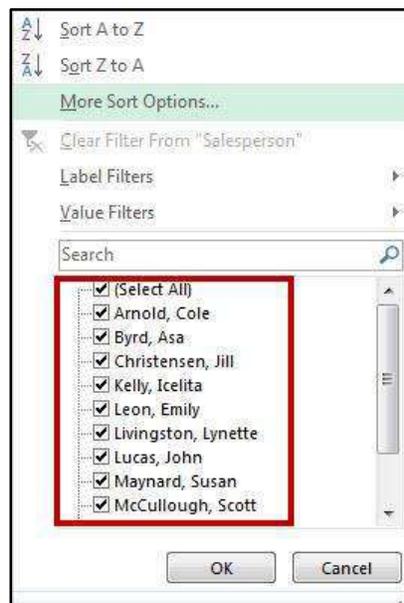


Figure 20 – Filter Values

3. Click the **checkboxes** to select/deselect values that you want to filter for.

4. Click on **OK** to apply your filter.
5. A *filter* icon will appear next to the *dropdown* arrow to indicate a filter has been applied to the field (See Figure 21).

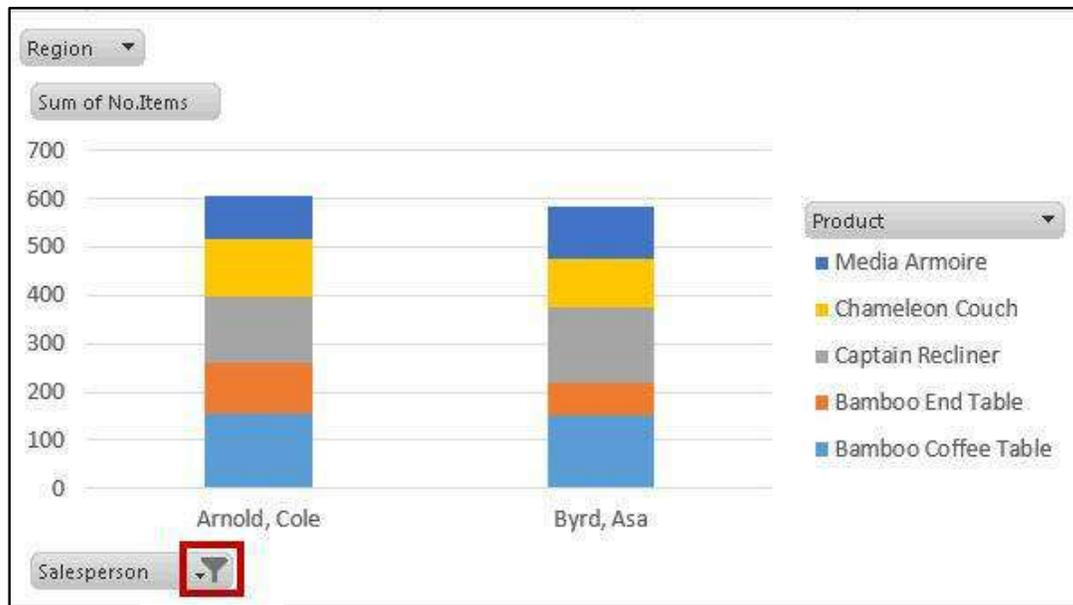


Figure 21 - Filter Applied

6. To remove the filter, click on the **dropdown** arrow.
7. The *dropdown* menu will appear. Click on **Clear Filter From** to remove the filter (See Figure 22).



Figure 22 - Clear Filter From

## Using Slicers to Filter Data

Slicers can provide greater control over your PivotTable or PivotChart when you are analyzing your data. Slicers work similar to filtering your information, but allows you to insert tables that you can use to quickly select values to filter/unfilter. They will show what is currently shown/not shown at a glance. Slicers can also be adjusted to change their size and color to make them more presentable.

### Inserting Slicers into your PivotTable or PivotChart

The following explains how to insert Slicers into your *PivotTable*:

1. Click within your **PivotTable** to select it.
2. In the Ribbon, click on the **Insert** tab (See Figure 23).

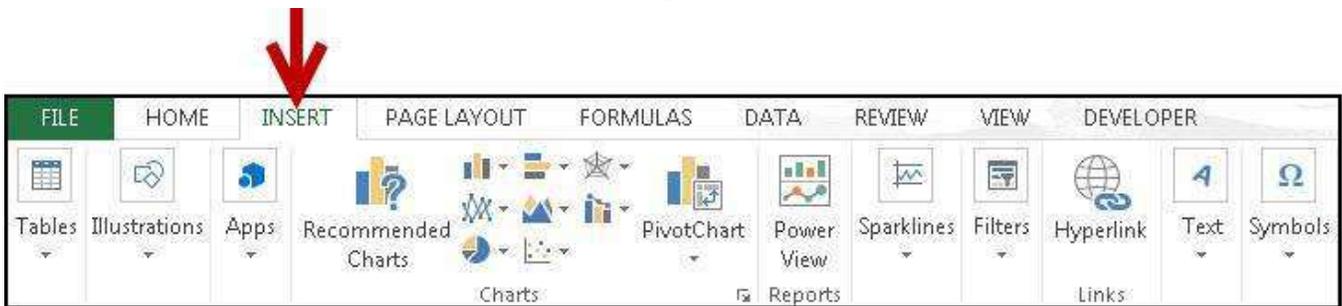


Figure 23 - Insert Tab

3. Under the *Filters* grouping, click on **Slicer** (See Figure 24).



Figure 24 – Slicer

4. The *Insert Slicers* window will appear with a list of your available fields (See Figure 25).

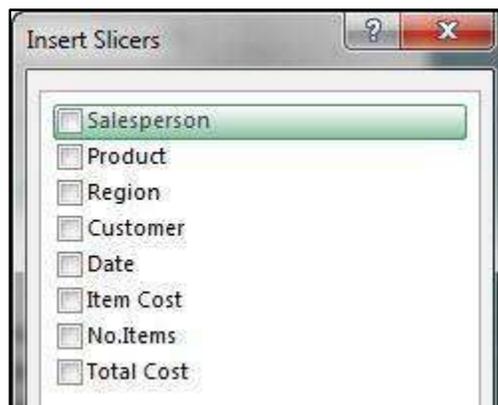


Figure 25 - Insert Slicers Window

5. Click the **checkboxes** next to the fields you want to create slicers for.
6. Click on **OK**.
7. The slicers will be inserted into your spreadsheet (See Figure 26).



Figure 26 - Slicers Inserted

8. Click and drag the **slicers** to reposition them as necessary.
9. To apply a filter from one of the slicers, click on one of the **values** (See Figure 27).



Figure 27 - Using a Slicer

*Note:* To select multiple values, hold down the **shift** key while clicking your values.

10. To remove values from your slicer, click the **Clear Filter** icon in the upper-right corner of the slicer (See Figure 28).



Figure 28 - Clear Filter from Slicer

### Additional Slicer Options

When a Slicer is selected, the *Slicer Tools – Option* tab will be available in the *Ribbon*. From this tab, you can change the Slicer caption, style, and size of the buttons and window. To access the *Slicer Tools – Options* tab:

1. Click on the **Slicer**.
2. In the *Ribbon*, click on the **Slicer Tools – Options** tab (See Figure 29).

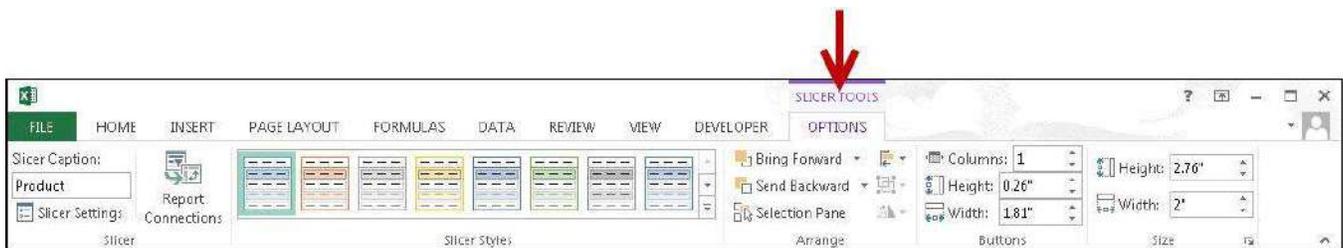


Figure 29 - Slicer Tools - Options Tab

3. Additional Slicer tools will be displayed. From here you can alter the slicer captions, styles, and button and window size (See Figure 30).

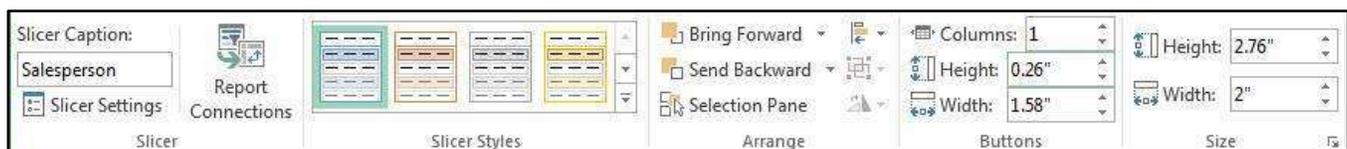


Figure 30 - Additional Slicer Tools

## **Additional Help**

For additional help or installation issues, please contact the KSU Service Desk (Faculty & Staff) or the KSU Student Help Desk (Students).

### **KSU Service Desk for Faculty & Staff**

- Phone: 470-578-6999
- Email: [service@kennesaw.edu](mailto:service@kennesaw.edu)
- Website: <http://uits.kennesaw.edu/faculty-staff/>

### **KSU Student Help Desk**

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- Website: <http://uits.kennesaw.edu/students/>