

## QUICK START: Utility Management - Penalty Trending

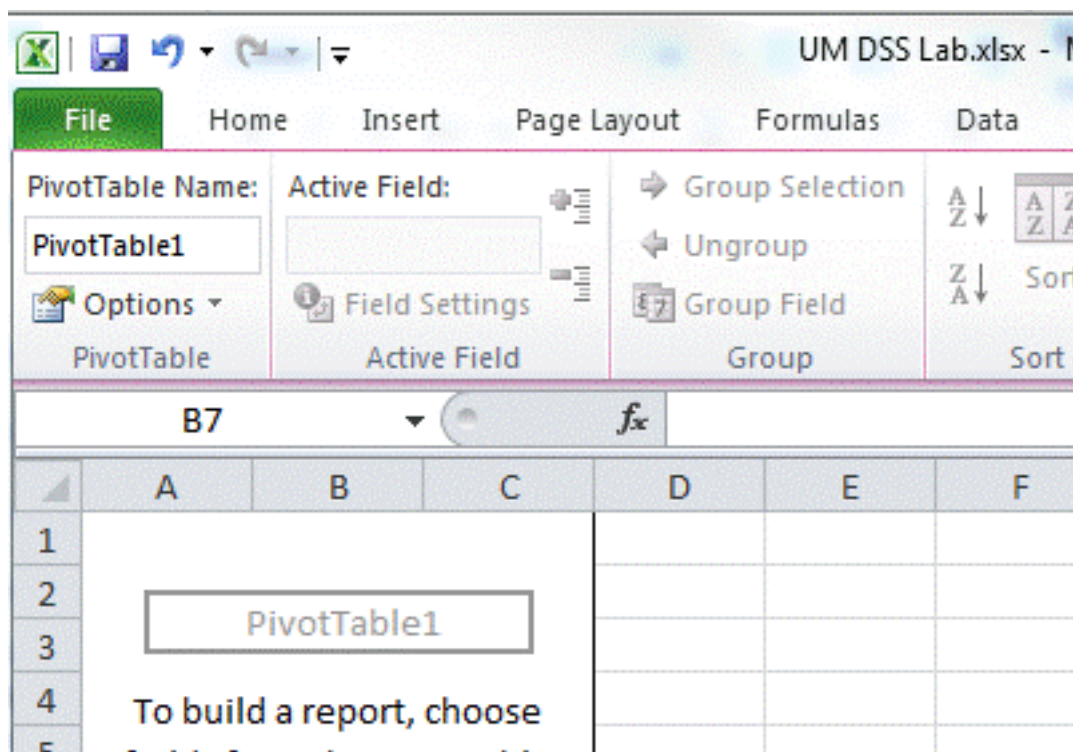
### Description

In this example, you will look at the penalty charges. You will look at results for one year and then create a yearly trend graph at different levels of granularity.

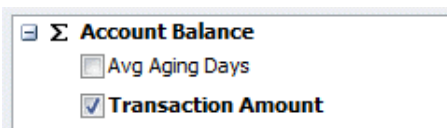
### Walkthrough

Open the **UM PenaltyTrending.xlsx** template. Change the data source to the General Ledger cube as outlined in the Changing a Template's Data Source Quick Start.

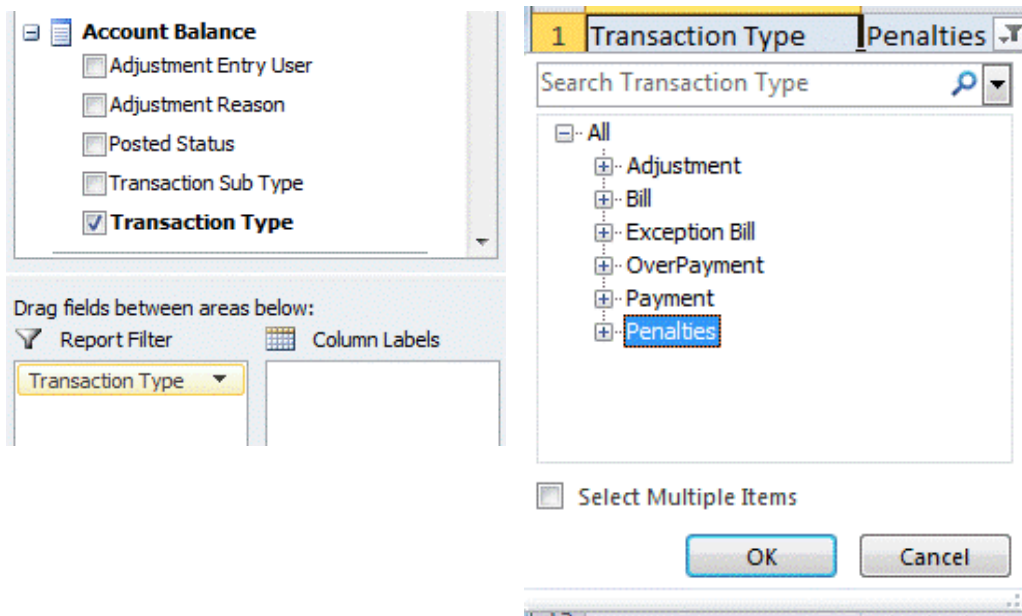
You should see the pivot table below.:



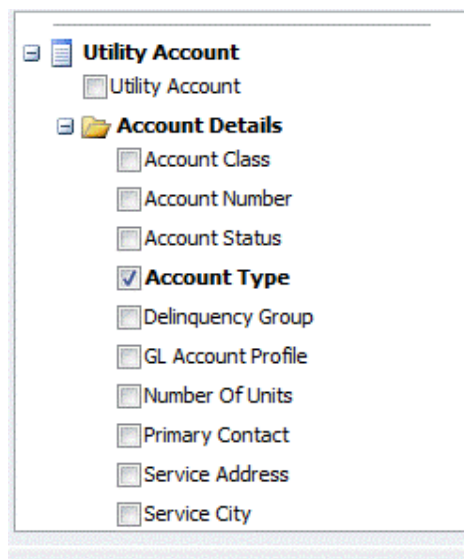
First, add the **Transaction Amount** to the pivot table from the **Account Balance** measures.



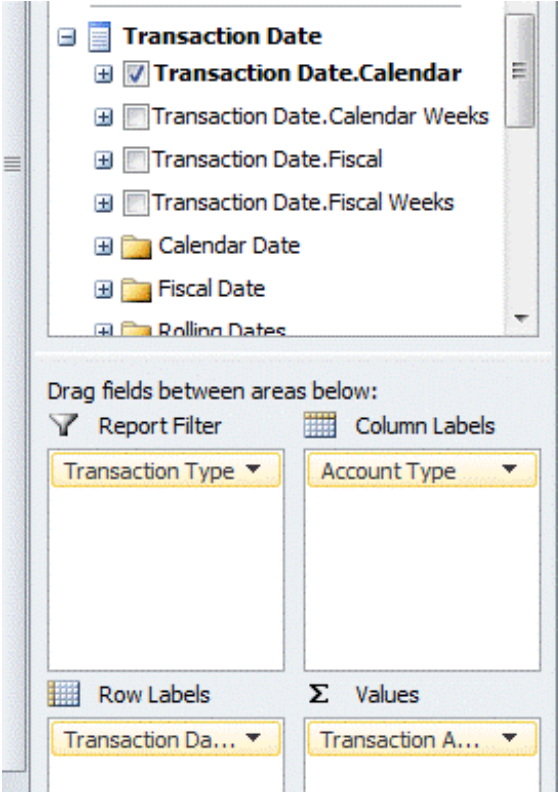
Next, filter by **Transaction Type** by dragging it from the **Account Balance** dimension to the Report Filter area. Then, select Penalties from the filter on the pivot table.



Next, break the charges down to **Account Type** by dragging it from **Utility Account** dimension, under the **Account Details** folder to the **Row Labels** area.



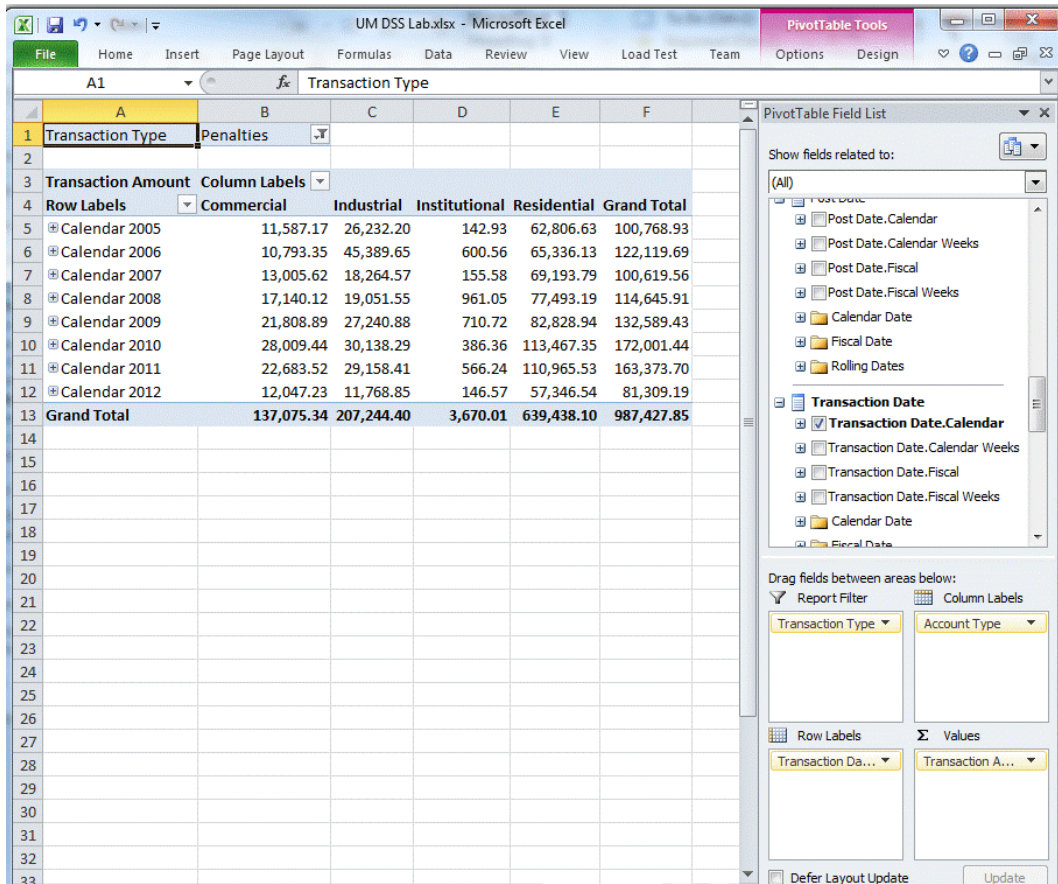
Drag the **Transaction Date.Calendar** field from the **Row Labels** area to trend by year.  
Move the **Account Type** from **Row Labels** to **Column Labels**.



The screenshot displays the report configuration interface. At the top, a list of available fields is shown under the 'Transaction Date' category. The 'Transaction Date.Calendar' field is selected with a checkmark. Below this list, a section titled 'Drag fields between areas below:' contains four designated areas for report layout:

- Report Filter:** Contains a dropdown menu labeled 'Transaction Type'.
- Column Labels:** Contains a dropdown menu labeled 'Account Type'.
- Row Labels:** Contains a dropdown menu labeled 'Transaction Da...'.
- Values:** Contains a dropdown menu labeled 'Transaction A...'.

You should see a result similar to the following:

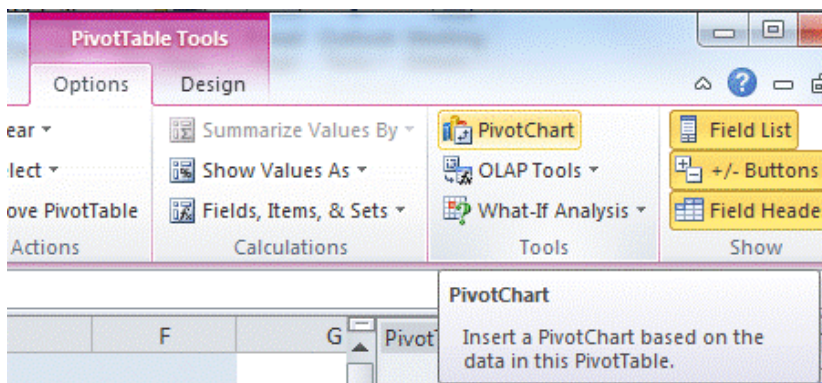


The screenshot shows an Excel spreadsheet with a PivotTable. The PivotTable is based on the 'Transaction Type' data source. The PivotTable fields are: Transaction Type (Report Filter), Transaction Date.Calendar (Column Labels), and Transaction Amount (Values). The PivotTable shows the Grand Total for each year from 2005 to 2012, categorized by Transaction Type (Commercial, Industrial, Institutional, Residential).

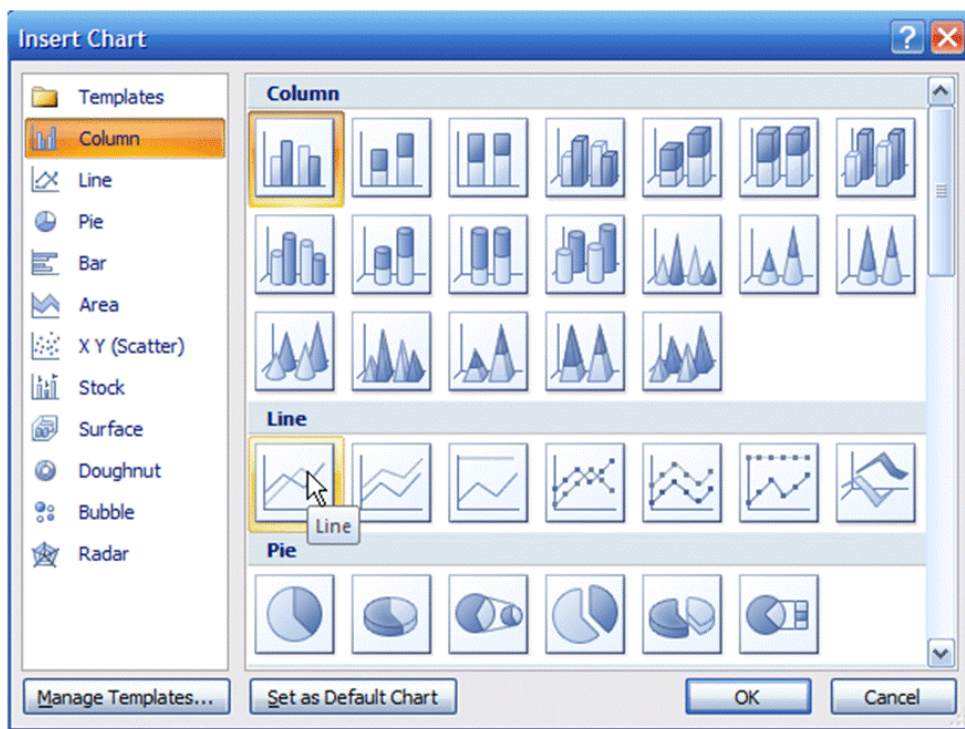
Transaction Type	Commercial	Industrial	Institutional	Residential	Grand Total
Calendar 2005	11,587.17	26,232.20	142.93	62,806.63	100,768.93
Calendar 2006	10,793.35	45,389.65	600.56	65,336.13	122,119.69
Calendar 2007	13,005.62	18,264.57	155.58	69,193.79	100,619.56
Calendar 2008	17,140.12	19,051.55	961.05	77,493.19	114,645.91
Calendar 2009	21,808.89	27,240.88	710.72	82,828.94	132,589.43
Calendar 2010	28,009.44	30,138.29	386.36	113,467.35	172,001.44
Calendar 2011	22,683.52	29,158.41	566.24	110,965.53	163,373.70
Calendar 2012	12,047.23	11,768.85	146.57	57,346.54	81,309.19
<b>Grand Total</b>	<b>137,075.34</b>	<b>207,244.40</b>	<b>3,670.01</b>	<b>639,438.10</b>	<b>987,427.85</b>

Select **PivotChart** from the top menu and choose line.

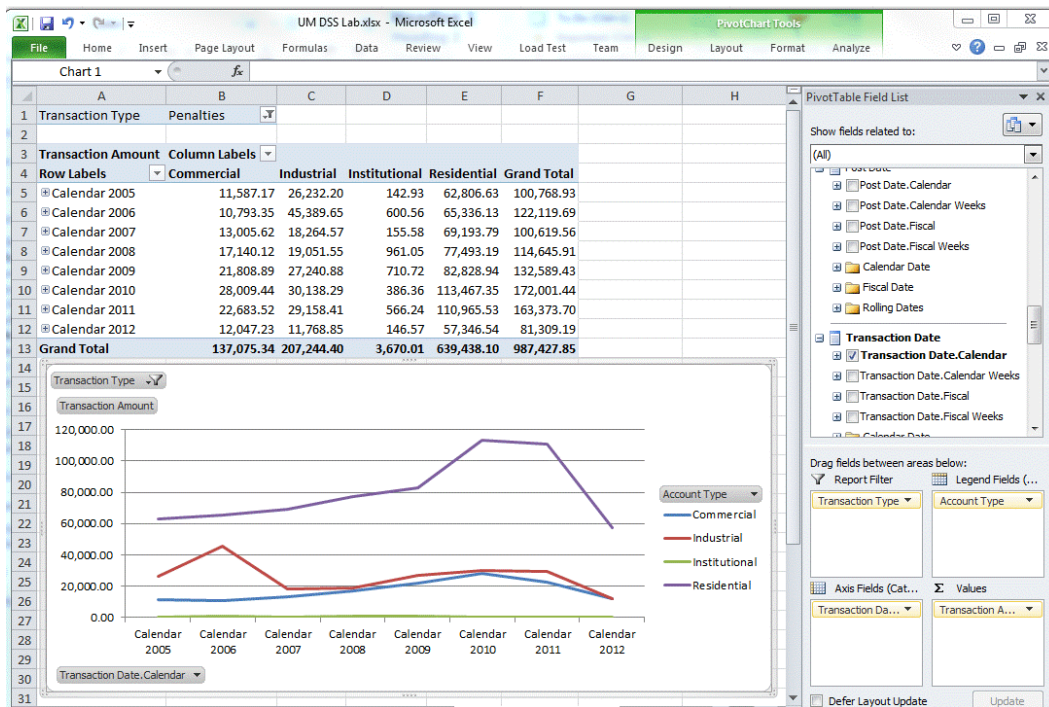
Then, to visually represent trends in the information, we can add a pivot graph to visualize the data. Click on **PivotTable Tools** on the menu bar in Excel, and click on **Line Chart with Markers**.







We now have a yearly trend of service orders by activity.

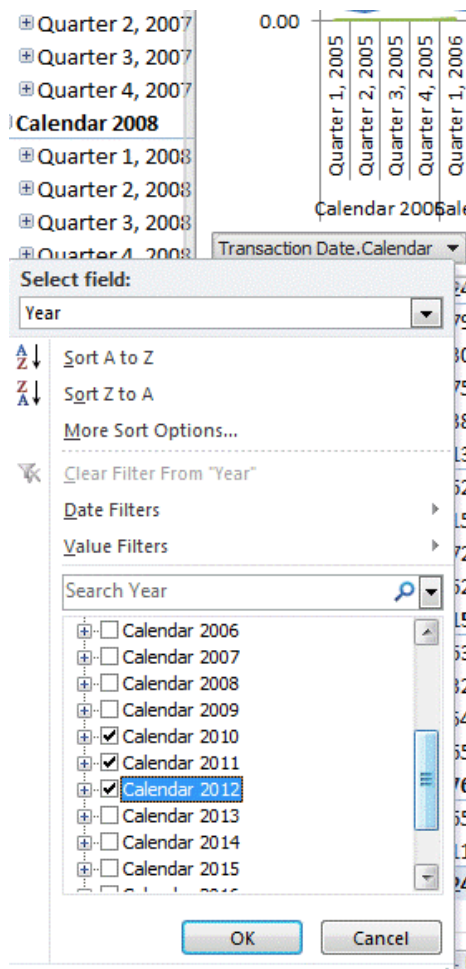


Right-click on any of the calendar years and select **Expand/Collapse > Expand Entire Field** to trend by **Quarter**.

Row Labels			Institutional	Residential	Gr
Calendar 2005		11,587.17	26,232.20	142.93	62,806.63 1
Calendar 2006			600.56	65,336.13	1
Calendar 2007			155.58	69,193.79	1
Calendar 2008			961.05	77,493.19	1
Calendar 2009			710.72	82,828.94	1
Calendar 2010			386.36	113,467.35	1
Calendar 2011			566.24	110,965.53	1
Calendar 2012			146.57	57,346.54	
Grand Total					
Transaction Type					
Transaction Amount					
120,000.00					
100,000.00					
80,000.00					
60,000.00					

We can now see some trends that were not visible when viewing the information by year. Any of these lines can be isolated for further analysis by further manipulating our pivot table filters.

It is currently a little unreadable. At this level we may only want to look at three years. Click on the **Transaction Date.Calendar** drop-down on the pivot chart and filter to only the last three years.



We now have a much more readable chart broken down by quarters.

