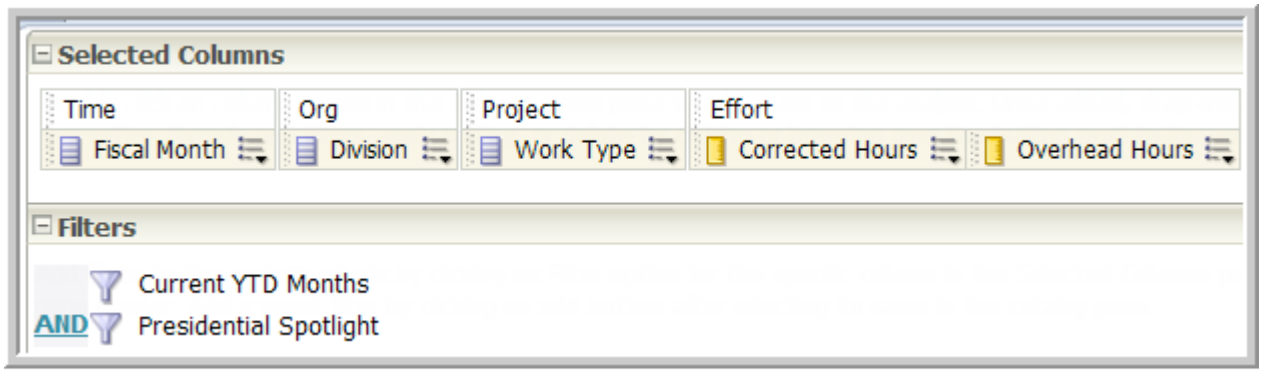
Lesson 3: Pivot Tables

Now that you've learned how to create filtered Answers analyses, you're ready to start learning how to create the different views of the analysis available in Answers. In this lesson, you will create a **pivot table** to examine your results, and add calculations and formatting to that pivot table.

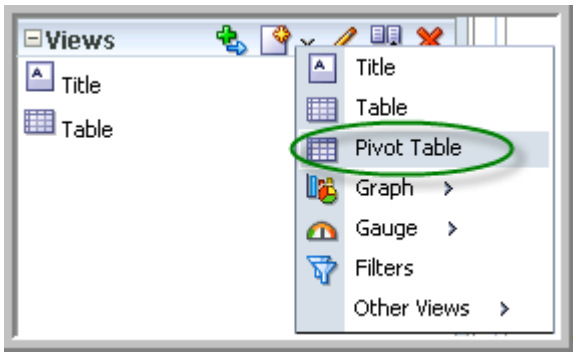
Exercise 3a: Creating a pivot table

1. Create the following new analysis in Answers:



2. Click the **Results** tab to view the table.

3. In the Views Section, click on the New View icon, and select Pivot Table.



Notice the **Done** and **Revert** buttons near the top right of the screen. **Revert** will remove any modifications made since the editor was opened. Also notice that when those two buttons are present you are in **edit** mode, and cannot create other views until clicking **Done** to leave edit mode.

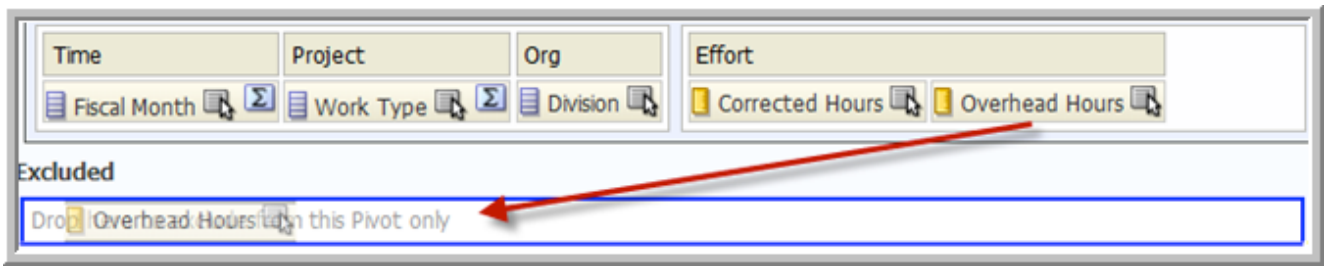
4. Just as you can rearrange the order of columns in a table, you can also rearrange columns in a Pivot Table View. **Hover** your mouse over the Work Type column to display the column anchor at the top of the column.

5. Move your mouse over the column anchor so that the cursor changes to a 4-way arrow. Left-click on the column anchor, the hold and/drag/drop it to the left of the Division column, looking for the blue-gray insertion line just as with the table view. Release the mouse button to drop the column in the new position.

6. Demonstrate the use of the **Display Results** option by clicking on the show results icon in the toolbar. This option allows you to display / not display the results of any layout modifications you make as you work in the Pivot Table layout. For large layouts which take a while to refresh, you may wish to uncheck the Display Results box while you are rearranging and repositioning objects in the pivot table layout canvas. For this training class, **select** (highlight) the icon so that the results are displayed each time you make a change to the pivot table layout.

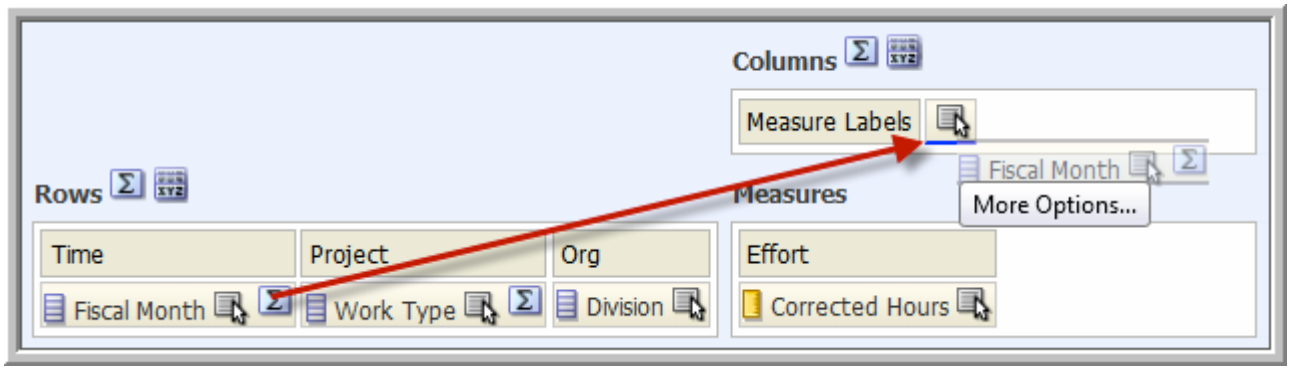
   Also, if you want more room to view your results, you have the ability to Show/Hide the Layout Pane by clicking on the layout icon, and to Show/Hide the Selection Step Pane by clicking on this icon .

7. Drag the **Overhead Hours** column from the Measures area to the **Excluded** area in your layout controls. When you see a blue line appear around the **Excluded** control, you have a valid insertion point and can drop the column. Dragging an object to the Excluded area removes it from the visible portion of the Pivot Table**.**



	**Helpful Hint:** A new feature in OBIEE 11g allows columns to be excluded from Table views as well as Pivot Table views.

8. Now let's arrange Fiscal Months to go across the page. Drag the Fiscal Month column from the **Rows** section and drop it below the **Measure Labels** in the Columns area in your layout controls. When you see a blue line appear, you have a valid insertion point and can drop the column.



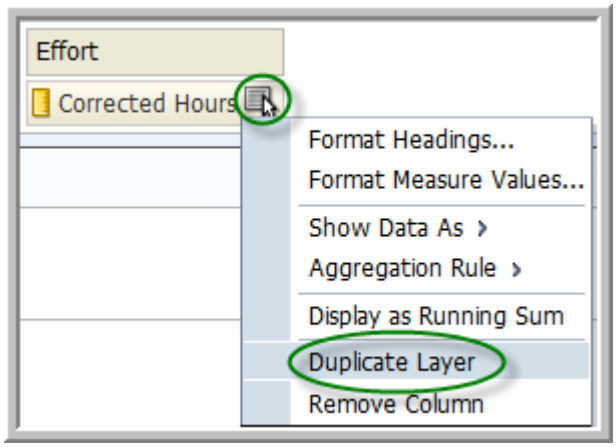
9. Your pivot table results should look like this:

		Corrected Hours					
		201001	201002	201003	201004	201005	201006
Work Type	Division						
Non Billable	Arts & Sciences	899	864	886	738	863	34
	Graduate School	1,654	1,562	1,039	1,077	1,195	12
	Office of Human Resources	2,472	2,097	1,539	1,729	2,128	132
Operational Improvement	Arts & Sciences	35	95	34	29	19	
	Graduate School	190	239	493	404	235	1
	Office of Human Resources	1,392	1,350	1,156	1,239	781	86
Operational Support	Arts & Sciences	1,404	1,311	950	1,478	1,010	22
	Graduate School	1,536	1,688	1,154	1,760	1,177	38
	Office of Human Resources	2,311	2,346	1,875	2,661	1,825	83

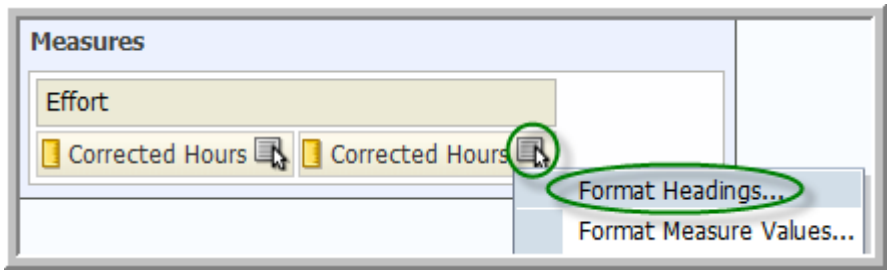
Exercise 3b: Adding pivot table calculations

Assume that you want to add a measure to your pivot table to display the percentage of Corrected Hours represented by each Division and Work Type. To accomplish this, you can add a **pivot table calculation.**

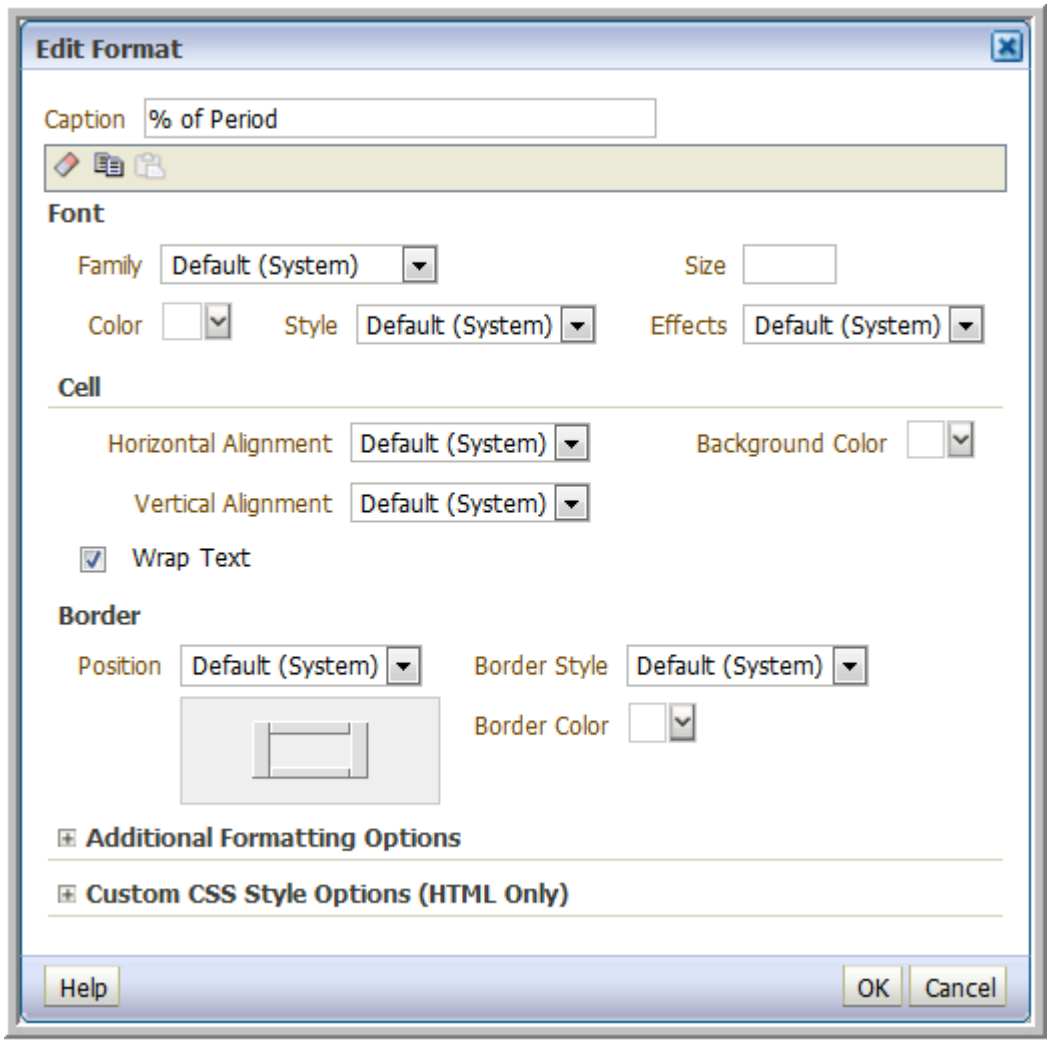
1. Duplicate the Corrected Hours measure by clicking the **More Options** icon for the **Corrected Hours** measure and selecting **Duplicate Layer**.



2. Next, we'll set the name for this new layer. Click the **More Options** icon for the new measure (the duplication) and select **Format Headings**.

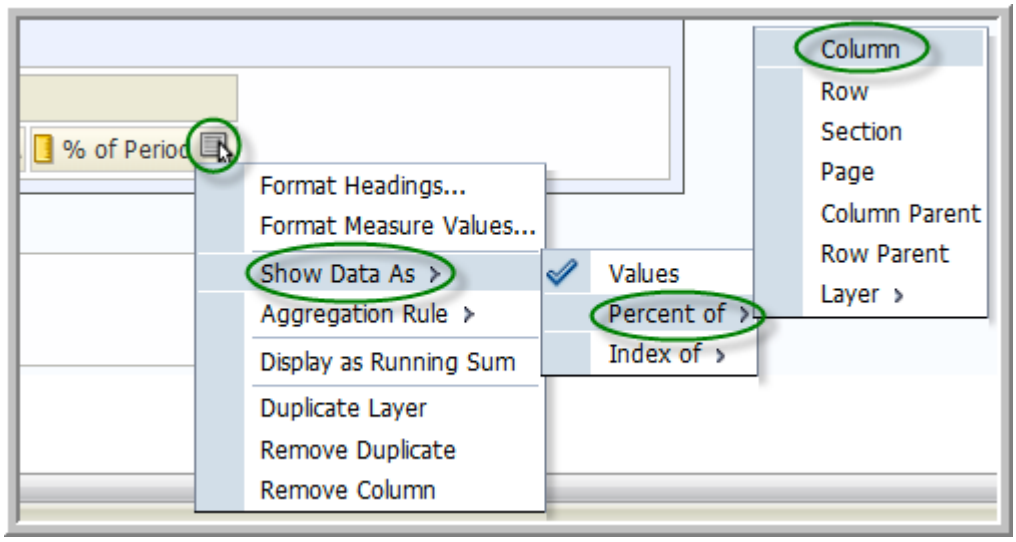


3. In the Edit Format dialog box, type **% of Period** as the caption.



Also note the other formatting options available in the dialog box. You can set font, cell, and border properties on this screen, as well as more options on the **Additional Formatting Options** screen. Click **OK** when you're ready.

4. Click the **More Options** icon for the duplicated measure and select **Show Data As … Percent of … Column**.



This setting means that the measure will be displayed as a percentage of the total for the column in which the measure resides. You can present a measure as a percentage of the total amount for any dimension present in the pivot table layout, for example a row or a section.

In this example, selecting **Percent of Row** would compute each Fiscal Month as a percentage of the total for all selected Fiscal Months.

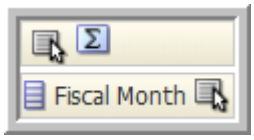
You can also set alternate aggregation rules for the measure using the Aggregation Rule option (the default is Sum).

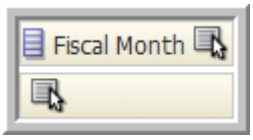
5. Create subtotals for each value of **Work Type** by clicking the **Total** **sigma (sum)** icon in the Rows areas of the Layout pane for the **Work Type**column and selecting **After**.

   Note that this is not the **Total** icon that appears after the **Rows** title above the columns, which would add a Total at the very bottom of each Column, for ALL rows in that column. We will use that icon in the next exercise.

   Note that you have formatting options available for these totaling rows.

6. To display the **Corrected Hours** and **% of Period** together for each Fiscal Month, going across the page, drag and drop the Fiscal Month column above the Measure Labels column.



becomes


7. Your top left of the pivot table results should now look like this:

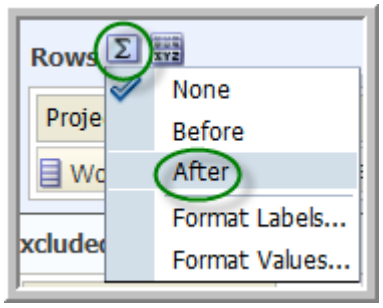
		201001		201002		201003	
		Corrected Hours	% of Period	Corrected Hours	% of Period	Corrected Hours	% of Period
Work Type	Division						
Non Billable	Arts & Sciences	899	7.6%	864	7.5%	886	9.7%
	Graduate School	1,654	13.9%	1,562	13.5%	1,039	11.4%
	Office of Human Resources	2,472	20.8%	2,097	18.2%	1,539	16.9%
Operational Improvement	Arts & Sciences	35	0.3%	95	0.8%	34	0.4%
	Graduate School	190	1.6%	239	2.1%	493	5.4%
	Office of Human Resources	1,392	11.7%	1,350	11.7%	1,156	12.7%

Note that there are many other features of pivot tables, such as section and page controls.

8. Save the analysis as **Presidential Recap**.

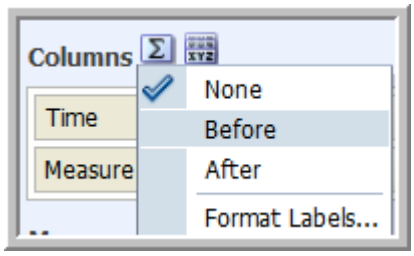
Exercise 3c: Adding pivot table totals

1. In the previous exercise we learned how to add a subtotal for each value of a dimension listed in the **Rows** area. To add a **Grand Total** to the report, click on the **sigma (sum)** icon immediately to the right of the word **Rows.** Choose **After** to display the Grand Total at the end of all other rows.



	Office of Human Resources	2,311	19.4%
Grand Total		**11,893**	**100.0%**

2. Likewise, you can add totals for all columns. Click on the sum icon immediately to the right of the word **Columns**, and select **Before** to add a column of totals to the left of the existing columns.

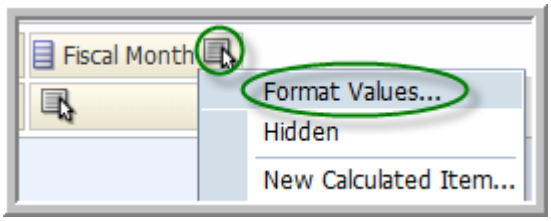


	Office of Human Resources	**6,005**	**11.3%**	1,392
Operational Support	Arts & Sciences	**6,176**	**11.6%**	1,404
	Graduate School	**7,352**	**13.8%**	1,536
	Office of Human Resources	**11,099**	**20.8%**	2,311
Grand Total		**53,325**	**100.0%**	**11,893**

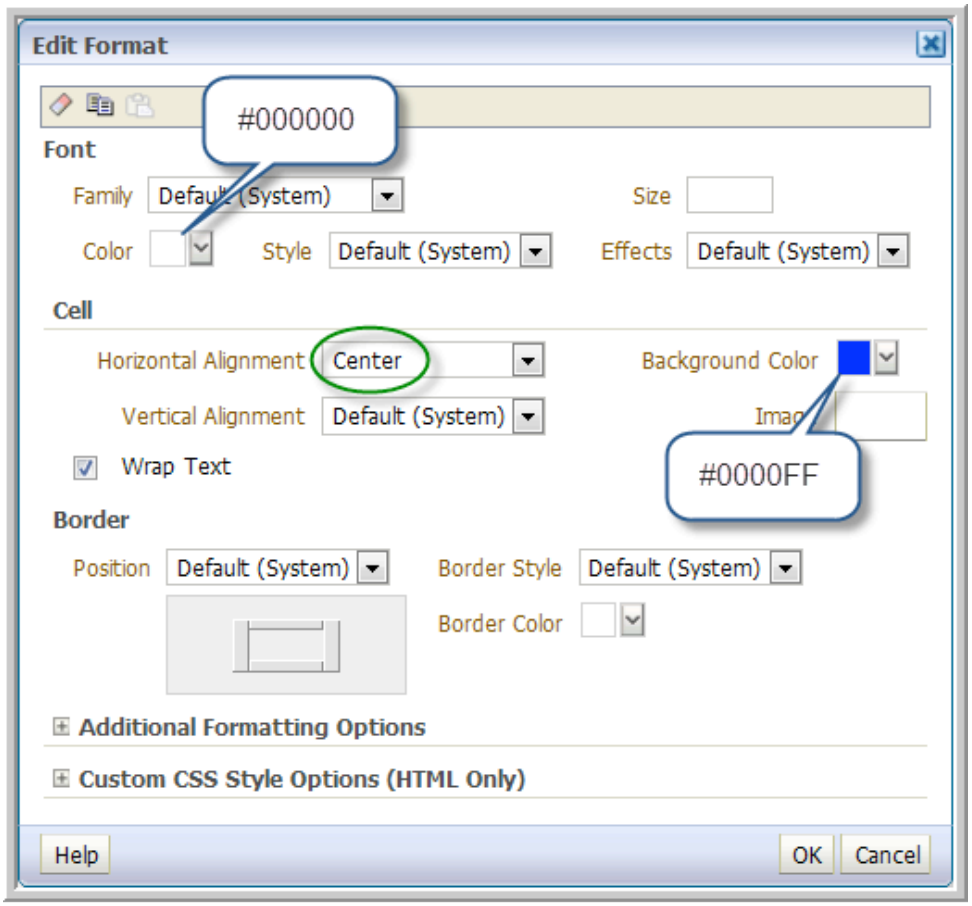
Exercise 3d: Formatting pivot tables

In this exercise, we'll explore some of the many formatting options available for pivot tables.

1. Format the color of the cells in the Fiscal Month column by clicking on the **More Options** button for the Fiscal Month column, and selecting **Format Values**.



2. Set the background color to a nice medium blue by clicking the **Background Color** box and entering #0000FF as the color. Set the Font color to white by clicking the Color box and entering #FFFFFF as the color. (You may enter or select whatever colors you want.) Let's also change the Horizontal Alignment to **Center.**



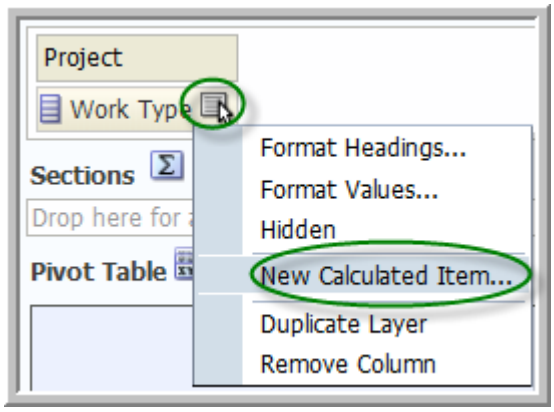
Any column, subtotal, or grand total may be formatted in exactly the same manner.

Exercise 3e: Creating pivot table calculated items

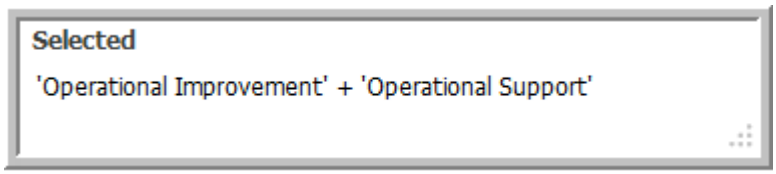
In this exercise, we will move a dimension into the Pivot Table Prompts (i.e. Drop here for Pivot Prompts) area to create a dropdown selection list. In addition, we'll create a new calculated value for **Work Type** (an on-the-fly sum of Operational Improvement and Operational Support that we will call **Billables**), and it will appear in the dimension dropdown list along with the other "real" values.

1. Beginning with the pivot table from the previous exercise, grab the **Work Type** tile and drag it up into the **Pivot Table Prompts** area of the layout panel. This places the values of Work Type into a dropdown box displayed at the top of the pivot table.

2. Click the **More Options** button for the Work Type tile, and select **New Calculated Item.**

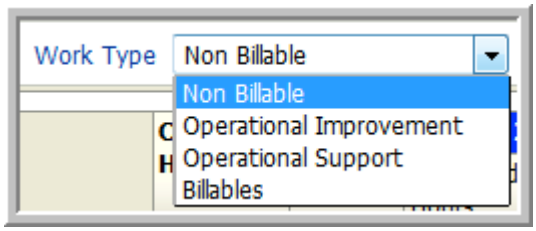


1. Enter **Billables** as the name of the calculated item, and use your mouse to click **Operational Improvement** then the shuttle arrow to move it into the formula. Follow with the plus sign, and shuttle **Operational Support** into the formula to create this:



2. Click OK when the formula is finished.

   Your new value is now available for selection in the dropdown box.



This technique is not limited to the Pages area. No matter where a dimension column is located, its **More Options** button will include a **New Calculated Item** option.

NOTE: A calculated item created in this manner will be present in all views.

3. Resave the **Presidential Recap** analysis.