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Pivot Tables for Google Spreadsheets

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Panorama® NovaView™
Pivot Tables for Google Spreadsheets

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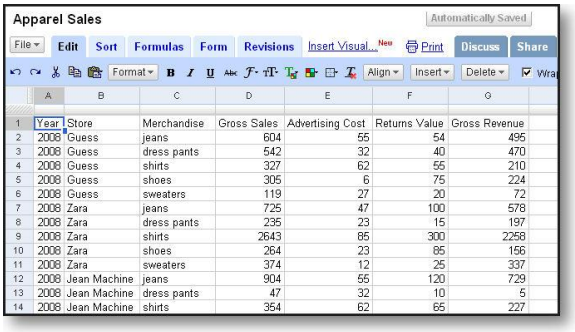
Overview

As a user of Google applications, your spreadsheets may contain large amounts of data, but how much sense does all of it make? Are you able to gain valuable insights from your exhaustive spreadsheets? For enterprise users, with all the extensive analysis you conduct within the firewall, to what degree can your results be shared and collaborated upon?



	A	B	C	D	E	F	G
1	Year	Store	Merchandise	Gross Sales	Advertising Cost	Returns Value	Gross Revenue
2	2008	Guess	jeans	604	55	54	495
3	2008	Guess	dress pants	542	32	40	470
4	2008	Guess	shirts	327	62	55	210
5	2008	Guess	shoes	305	6	75	224
6	2008	Guess	sweaters	119	27	20	72
7	2008	Zara	jeans	725	47	100	578
8	2008	Zara	dress pants	235	23	15	197
9	2008	Zara	shirts	2643	85	300	2258
10	2008	Zara	shoes	264	23	85	156
11	2008	Zara	sweaters	374	12	25	337
12	2008	Jean Machine	jeans	904	55	120	729
13	2008	Jean Machine	dress pants	47	32	10	5
14	2008	Jean Machine	shirts	354	62	65	227

Panorama's pivot table functionality for Google Spreadsheets can help you analyze both spreadsheet and enterprise level data, helping provide robust insights that will help you answer all sorts of questions.

With Panorama's pivot table functionality for Google Spreadsheets, you can interact with data and look at it in various ways in a simple drag and drop environment. Ask questions and get the answers.

In this simple tutorial, you will learn how to use Panorama's pivot table for Google spreadsheets in order to ask interesting questions and get the answers within seconds.

Introduction to Pivot Tables

Like so many other spreadsheet users, you too may have huge spreadsheets with thousands of rows and columns of data. The data could be about anything from numbers from your small business sales volume to a breakdown the stats of all the players of your favorite sports league.

Alternatively, you may be a regular user of business intelligence software for an enterprise-level organization who enjoys the collaborative and mobile abilities of Google Docs but perhaps cannot see how this can be integrated in your current business practices from an analytical perspective.

Panorama's pivot table functionality for Google Spreadsheets provides answers, transforming raw data into meaningful insights. Beyond processing spreadsheet data, this new data analysis solution gives enterprise users the ability to examine corporate line-of-business data or OLAP sources right from within Google Apps! So how does it all work? The following is a step-by-step guide to getting started.

Step One – Getting Ready for Pivoting

When it comes to preparing to use the pivot table, it's important that you ensure that your data source is setup correctly to allow optimal analysis. Panorama's pivot table for Google Docs supports two types of data sources:

1. Data from within a Google spreadsheet
2. Data from a local cube (.CUB) file

Data From Within Your Google Spreadsheet

The first step in creating your pivot table is to ensure that your spreadsheet is properly structured. When creating a pivot table, each column of your spreadsheet will become a **field** that can be used interactively in the pivot table.

The names of the **fields** that will form in the pivot table will come from the column titles in your spreadsheet. Be sure that you have a name for each column across the first row of the spreadsheet in the source data.

Also, for better performance, make sure that there are no empty columns or rows in your spreadsheet.

There are two types of columns in a spreadsheet: **Data Columns** and **Descriptive Columns**. An example of a **Data Column** would be one that contains quantifiable values such as the number of items sold for a specific product or grades for a school course. An example of a **Descriptive Column** is one that would list the names of countries, sales agents or school courses.

USEFUL TIP: Make sure you identify all the columns you want to **measure (quantify)** before you start creating your pivot table.

Local Cube File Data

Panorama's solution for Google Docs offers enterprise users the ability to analyze data from their Microsoft SQL Server Analysis Services platform. In order to get started, you first need to convert a cube into a "local cube file" called a CUB file. Cube files can contain an entire cube or just subsets of a full OLAP cube. With the new support for OLAP files, users can analyze corporate data, share and collaborate over fully interactive reports right from within Google Docs. To learn more about cube files go to http://www.panorama.com/google/pivot-table-tutorial/cube_file.html.

There are three very good options that can be employed when creating a local cube file. It can be done from within SQL Server Analysis Services (http://msdn.microsoft.com/en-us/library/aa936716(SQL.80).aspx), Microsoft Excel (http://office.microsoft.com/en-us/excel/HP052479081033.aspx) and a powerful desktop application called CubeSlice (http://www.cubeslice.com/googledocs/cubeslicegdocinstall.exe).

CubeSlice is Panorama's recommended tool for cube file creation as it optimizes the performance and the size of the file as well as provides the simplest user interface to create such files. Once you create your local cube file, ensure that it is located somewhere on your computer which is easy to recall as you will be prompted later to locate it.

Step Two – Inserting the Pivot Table

USEFUL TIP: If working with your Google spreadsheet as your data source, it's very useful to select (with a mouse drag) the data cells you want to analyze prior to inserting the Panorama pivot table. Include the column headings in your selection.

Now that your spreadsheet or local cube file is ready to go, click the **Insert** button on the toolbar of your Google Spreadsheet and choose **Gadget**. Once the gadget window pops up, add the **Panorama Pivot Table for Google Spreadsheets** gadget and carry out the following steps:

1. Running the initial wizard is done a little differently depending on whether you would like to conduct analysis on data within the spreadsheet or from a local cube file.
    a. **Data From Within Spreadsheet:**
        i. If you are working with data from the spreadsheet and haven't already selected the cell range (as indicated in the tip above), indicate the **Range**, ensure that you have selected **Current Spreadsheet** and then click **Apply and Close**.

b. Local Cube File:

i. If you would like to conduct analysis on data within a local cube file, select **Other Data Sources** from the "Create Pivot Table" pull down menu
ii. Enter your Google account username and password
iii. The next window prompts you to select your data source
iv. Click the green "**+**" sign and then select **Import** to locate your cube file.
v. Allow the file to upload
vi. Once prompted with the **Upload Successful** box, press **Ok**
vii. Click **Finish**
viii. Select your cube file in the **Available Local Cubes** window and click **Next**

2. You are now in the **Build Your Initial Pivot Table** window. This window allows you to setup your initial view for analysis. By simply clicking the ▼ in the row and column, you can choose what data you would like to display for your initial view. Keep in mind, the field names correspond to the spreadsheet column headers. Click **Finish**. The pivot table grid and chart are now displayed.

Step Three – Learning the Pivot Table User Interface

Title bar – contains the buttons, title and filters.


Save View


Undo Changes


Change Layout


Settings


Help


Collapse/Expand Toolbar


Modify Data Source


Refresh Data


Bar Chart


Stacked Bar Chart


Line Chart


Pie Chart


Collapse/Expand Filter Pane


Chart Legend Mode and Position


Use Rows or Columns for Chart Series

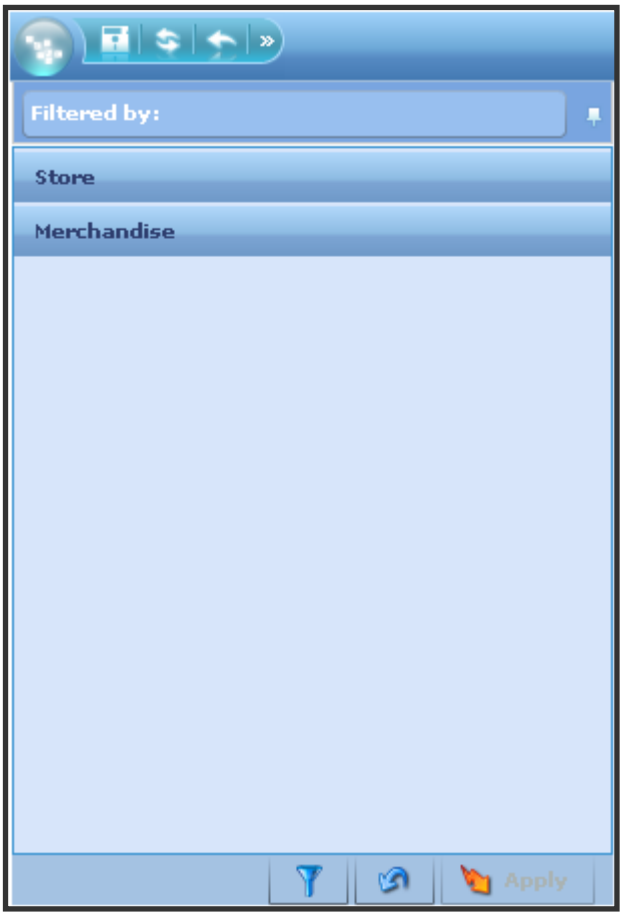
Step Four – Using the Pivot Table

You can now play around with your data and visualize it from different perspectives. To modify the pivot table results, you can:

- Choose what data shows in the report using the "Measures" selection
- Filter the Data – by screening which data to include in the table and chart
- Modify the Structure and layout of the pivot table – to show a different perspective of the data
- Drill Up or Down – to decrease/increase the level of detail displayed
- Sort Data – to sort data in ascending or descending order
- Rank Data – to show the top 10 or bottom 10 items
- Build Charts – display selected data in a chart

Filtering Overview

Filtering enables you to visualize data according to specific criteria. Using filtering, you can change the view and display of your pivot table and chart.



The filters pane displays the fields of data used for filtering. In this example, the filter fields are "Store" and "Merchandise". The pivot table determines the default filtering fields by the type of data for each field.

As discussed above, there are two distinct data types:

- Quantifiable data – by default, all numeric data, excluding time data (for example, "gross sales"). In the **Filter Pane**, values are displayed as: **measures**
- Descriptive Data – by default, all non-numeric or time data (for example, "product name" and "merchandise"). In the **Filter Pane**, descriptors are displayed as:
  - *dimension name* – when not filtered
  - *dimension name* **(***member(s)***) –** when filtered

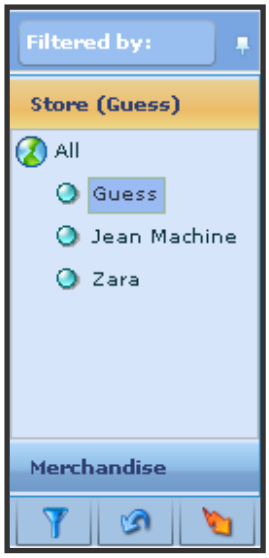
By default, the pivot table presents all data fields and their corresponding data available for filtering. The pivot table allows you to filter by:

- One or more **fields** (dimensions)
- One or more **items** within a field (dimension members)

How to Filter by a Field

To filter your data by a field (or cube dimension):

1. Open the filters pane and click the tab of the field to filter by (for example, Store). The tab opens and displays the available data values. The highlighted members indicate the current filters:



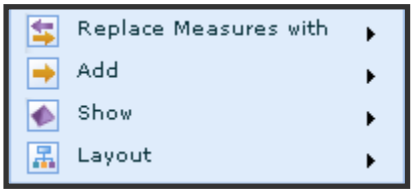
2. Click **All** to filter by all values of the field, or in other words – not to filter:

3. You will be prompted if you would like to accept the changes. Click **Apply** if you wish to update immediately or continue filtering – you can select all the filtering and apply all at once. Click **Cancel** to go back to the previous filtering.

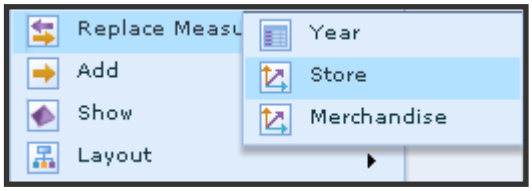
How to Modify the Pivot Table Structure and Layout

The grid structure you defined while creating the view is not final, you can change it as you navigate through the data. To change the pivot table structure or layout, there are many options, listed as follows:

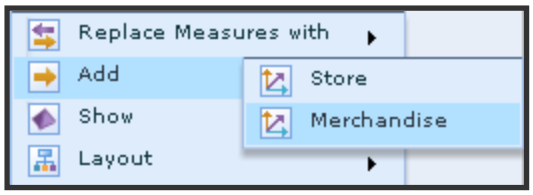
1. Point the mouse to the header of the grid row or column to change and click the ▼. An options menu appears.

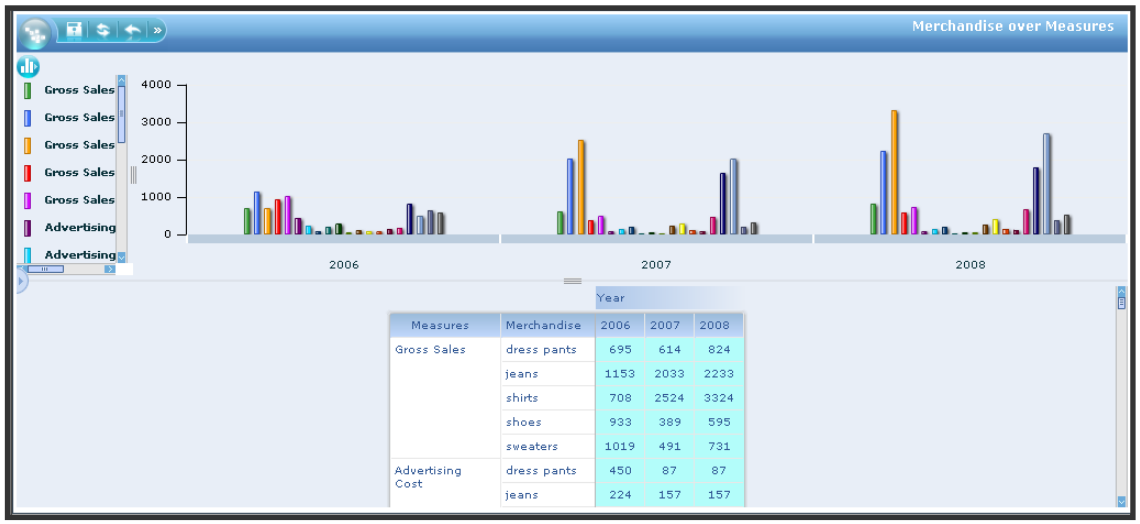


   a. Choosing **Replace..** will swap fields, the selected field will go into the grid and the replaced field will appear as filter in the filter pane. For example, select **Replace Measures** with **Store**. In the example below, the grid and chart now display the Gross Sales for each store.



b. Choosing **Add** will add (nest) another field to the grid and break down the data by the added field, for example, Merchandise. In the example below, the grid and chart display each of the Measures fields broken down by Merchandise item:



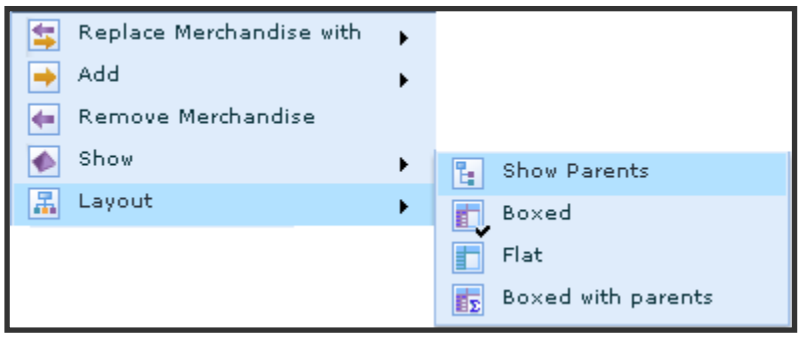


c. **Remove..** is available when there is more than one field nested. Once removing, the field would move back to the filter pane.

d. Show.. is available when a **field** has a hierarchy with more than one level. **Show Years** or **Show Months** for example, would expand your Time field to the desired granularity level.

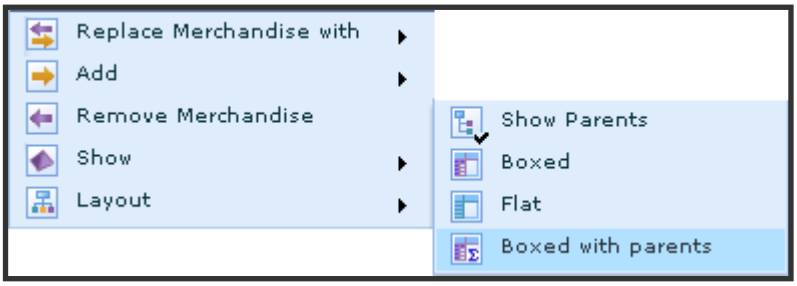
e. Layout is for various ways of displaying a hierarchy:

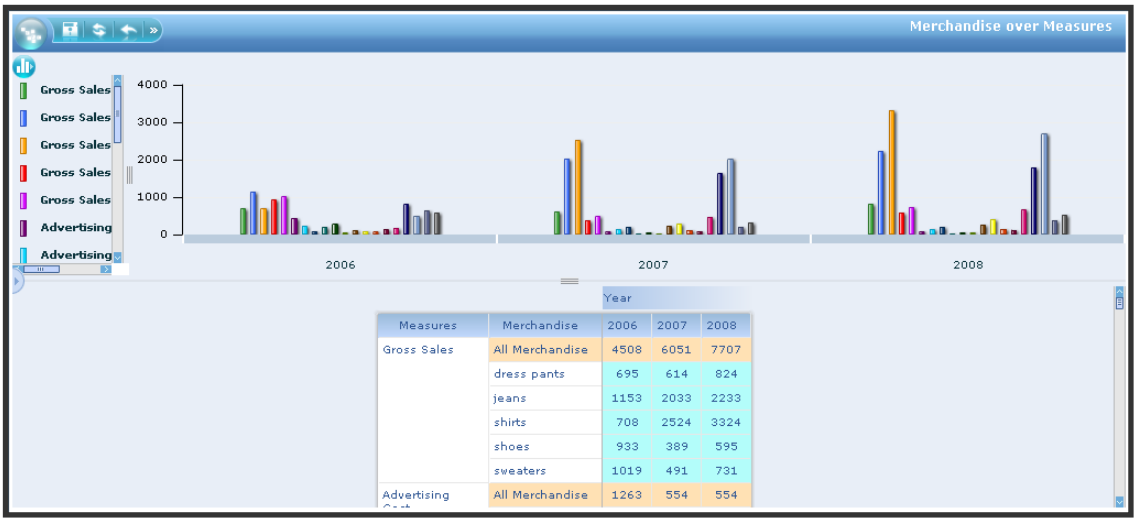
   i. Select **Layout** and then click **Show Parents**. In the example below, the grid includes the All Merchandise field, which displays the total of all the Merchandise items. Note that the parent, All Merchandise, has a boxed minus sign. This enables drilling up the dimension.



ii. Select **Layout** and then click **Flat**. In the example below, the grid and chart display the All Merchandise field only, without the breakdown by Merchandise item.

iii. Select **Layout** and then click **Boxed With Parents**. In the example below, the grid and chart display the Merchandise field, with the breakdown by Merchandise item.





How to Drill Up or Down

If the view you created includes hierarchical dimensions, you may drill up or down the dimensions to view data for higher or lower level members.

- To drill down a dimension, click ⊞ next to the parent name. The dimension is drilled down, and ⊞ is replaced with ⊟.
- To drill up a dimension, click ⊟ next to the parent name. The dimension is drilled up, and ⊟ is replaced with ⊞.

The following examples display the results of drilling up and down the Merchandise dimension.

After drilling up:

		Year		
Measures	Merchandise	2006	2007	2008
Gross Sales	⊞All Merchandise	4508	6051	7707
Advertising Cost	⊞All Merchandise	1263	554	554
Returns Value	⊞All Merchandise	500	807	1058
Gross Revenue	⊞All Merchandise	2745	4690	6095

After drilling down:

		Year		
Measures	Merchandise	2006	2007	2008
Gross Sales	⊟All Merchandise	4508	6051	7707
	dress pants	695	614	824
	jeans	1153	2033	2233
	shirts	708	2524	3324
	shoes	933	389	595
	sweaters	1019	491	731

How to Sort and Unsort Data

- To sort data in descending order:

1. Point the mouse to the dimension or member name and click ▼. The options menu appears.

2. Click the **Sort by …** option. The grid and chart are sorted by the selected data in descending order. A ▶ appears next to the dimension or member name in the grid, enabling sorting in ascending order.

- To sort data in ascending order:

  Click the ▶ next to the dimension or member name in the grid. The grid and chart data are sorted by the selected data in ascending order. The ▶ changes to ◀, enabling sorting in descending order.

- To unsort data:

1. Point the mouse to the dimension or member name and click ▼. The options menu appears.

2. Click **Remove Sort**. The selected data sort is removed.

How to Rank and Unrank Data

- To rank data:

1. Point the mouse to the dimension or member name and click ▼. The options menu appears.

2. Select **Rank** and click **Top 10** or **Bottom 10**. The grid and chart display data for the top 10 or bottom 10.

- To unrank data:

1. Point the mouse to the dimension or member name and click ▼. The options menu appears.
2. Select **Rank** and click **Remove Rank**. The data ranking is removed and all the data is shown again in its original order.

How to Chart Data

To chart data, when chart is in the view layout:

1. Click  to expand the chart toolbar. To lock the chart toolbar in place, click again. Select the type of chart by clicking one of the chart icons. The selected chart type is displayed.

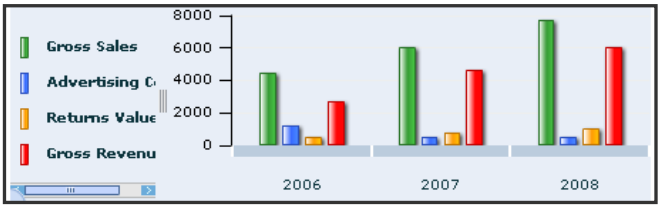
2. To change the range of data charted, click on a grid cell and drag the mouse over the desired range of cells in the grid. The chart is updated to include the selected range.

3. Panorama automatically selects the best subset of data for the chart. However, if you wish to change the default selection to add or remove specific rows or columns for the chart – hold down the Ctrl key and drag the mouse over the target cells.

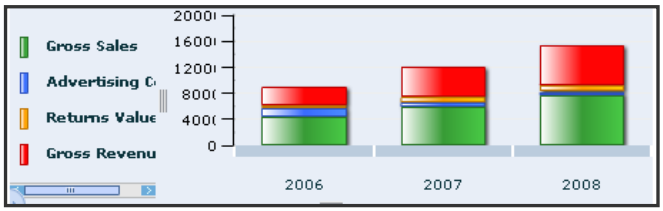
Charting Options

The following chart types and options are available by clicking the chart toolbar icons:

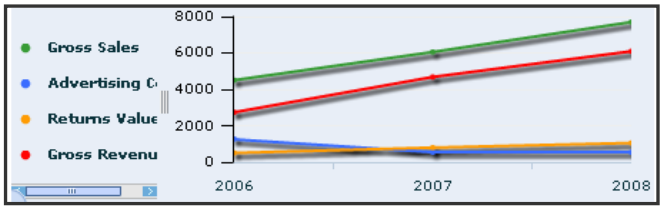
-  Bar Chart



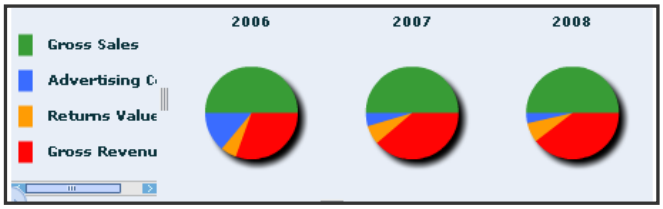
-  Stacked Bart Chart



-  Line Chart



-  Pie Chart



-  Chart Legend Layout Menu

-  **Chart Rotation** – chart series can be derived either from grid rows or columns. Use this button to switch between the two.

How to Save Your View

On the main toolbar, click  . A window appears, displaying "Operation Succeeded". Click OK. The view is saved.

Now a saved view can be shared with your colleagues and other Google users using the standard Google Docs sharing and publishing features.