Pivot Tables

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Creating a PivotTable Report

Exercise 1: Create the report view

1. **Open the “Create a PivotTable report1.xls” file** in the Pivot Tables Training Files folder on the desktop.
2. In the worksheet, select any cell that contains data. For example, click in cell A4. On the **Data** menu, click **PivotTable and PivotChart Report**. The wizard appears.
3. In Step 1 of 4the wizard, make sure that **Microsoft Excel list or database** is selected as the answer to the first question.
4. Make sure that **PivotTable** is selected as the answer to the next question.
5. Click **Finish**.

> **Note:** That's it. Clicking **Finish** tells the wizard to use its default settings to lay out an area for the PivotTable report. You could spend more time with the wizard by clicking **Next** instead of **Finish**, but it's not necessary now.

A new worksheet, "Sheet1," is inserted into the practice session workbook. The new worksheet contains three items: the **PivotTable Field List**, the **layout area** for the report, which contains separate outlined drop areas onto which you'll drag and drop fields, and the **PivotTable** toolbar. If you can't see the field list, which looks like this:

click in the outlined area of the layout area. If you still don't see the field list, click the **Show Field List** button on the **PivotTable** toolbar. (The toolbar should appear either floating on the worksheet or docked to one side.)

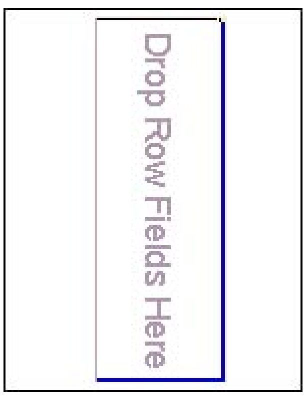
Note If the **PivotTable** toolbar is not visible, on the **View** menu, point to **Toolbars**, then click **PivotTable**. If you wish, you can drag the field list and the toolbar to different locations as you complete the following exercises.

Exercise 2: Lay out the report

Now you'll lay out the report to find out how much each salesperson has sold. The report layout changes appearance as you drop fields into the layout.

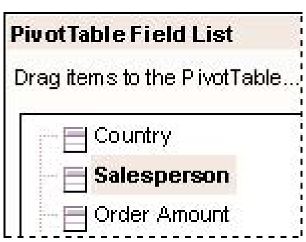
1. From the **PivotTable Field List**,

drag the **Salesperson** field to the drop area labeled **Drop Row Fields Here**.



You can drag by selecting either the field name or the button in front of the field name. If you drop a field in the wrong drop area, just drag it to the correct drop area.

Note: Once field names have been dropped, they remain on the list but change to boldface.



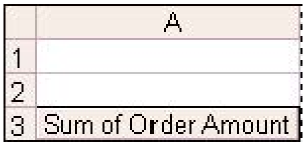
2. From the **PivotTable Field List**, drag the **Order Amount** field to the drop area labeled **Drop Data Items Here**.

Buchanan	68792.25
Callahan	123032.67
Davolio	182500.09
Dodsworth	75048.04
Fuller	162503.78

When you drop a field in the drop area for data items, the colored outline disappears and you see the report, which displays a total for each salesperson. The first rows of your PivotTable report should look like this:
To see the report without the empty drop area for **page fields** at the top of the

worksheet:

click anywhere outside the layout area. Click in cell C4, for example. The page fields area disappears, and so does the **PivotTable Field List**.

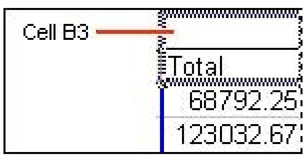


Exercise 3: Pivot the report

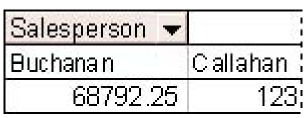
In this exercise you'll swing your data from a row orientation to a column orientation.

1. Click the **Salesperson** field heading (in cell A4). 

2. Drag and drop the **Salesperson** field heading to cell B3, which is the cell just above "Total." When you drag, as long as you've got the gray box cursor and you point that to your destination cell, you're OK.



The report changes appearance to show the names of the salespeople in column, rather than row orientation.

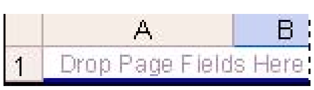


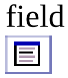
This particular data isn't very easy to read in column format, but column format could be very useful with other data. You need to know how to move a field from one orientation to another.

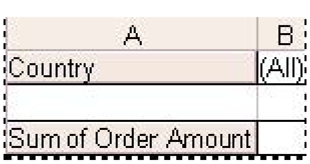
3. Next, move the **Salesperson** field back to a row orientation. **Here's how:** Click the **Salesperson** field heading, drag it to cell A4, and then drop it.

Exercise 4: Create page views

Now you'll try something new: **creating page views**. In this example, you'll display the order amounts for salespeople, with totals for different countries on different pages. You'll drag and drop a field to the drop area labeled **Drop Page Fields Here**.



1. Drag and drop the **Country** field from the **PivotTable Field List** to the **Drop Page Fields Here** area. **Note:** If you can't see the field list, click in the layout area. If you still don't see the field list, click the **Show Field List** button  on the **PivotTable** toolbar. Now the report looks like this:



The name of the visible page appears in the cell beside the Country field. In this example, the visible page has data for all countries in the list.

2. To view a different page, click the arrow beside the page name, select a page, and click **OK**.

You can view three pages. The amount sold per country appears for each salesperson on that country's page, and totals for both countries together appear on the "(All)" page.

Exercise 5: Drag fields off the report

We told you that it's easy to change your mind about which information belongs in a report. Now you'll see how to remove fields. Before you start, notice that the fields now displayed in the report view are shown in bold letters on the **PivotTable Field List**. This helps you to keep track of which fields you've already dragged and dropped to the report.

1. Click the **Country** field heading on the worksheet (cell A1), then drag and drop it anywhere outside the outline. For example, drop it in cell D2.

- **Note:** A red "X" appears beneath the insertion point after the field is dragged outside the layout area. The X means that the field is removed from the report layout.

2. Click the **Sum of Order Amount** field heading on the worksheet (cell A3), then drag and drop it anywhere outside the outline. When you drop the field, the outline expands.
3. Click the **Salesperson** field heading on the worksheet (cell A4), then drag and drop it anywhere outside the outline.

The outline looks as it did before you started. None of the names on the field list is in bold letters, because none of the fields in the list is used on the PivotTable layout area.

So if you feel like starting all over again, it's just this simple. You can have a clean slate in a couple of seconds.

Use the wizard and move fields around

Exercise 1: Use the wizard to create a report layout area

1. **Open the "Not a expert-Not a problem2.xls" file** in the Pivot Tables Training Files folder on the desktop.

Before you start, take a look at the source data. The **Order Amount** field contains the sales figure data, and the **Salesperson** field contains the names of the salespersons. You'll use both of these fields in this practice session, as well as the **Country** field, which identifies the countries each salesperson works in.

Here's how:

2. Select any cell in the worksheet that contains data. For example, click in cell A4. On the **Data** menu, click **PivotTable and PivotChart Report**. Then click **Finish**.

Clicking **Finish** tells the wizard to use its default settings to lay out an area for the PivotTable report, which in this example is all that is necessary.

A new worksheet, "Sheet1," is inserted into the practice workbook. The new worksheet contains the layout area for the report, the **PivotTable** toolbar, and the **PivotTable Field List**.

The **PivotTable Field List** looks like this:

If you can't see the field list, click in the outlined layout area. If you still don't see it, click the **Show Field List** button on the **PivotTable** toolbar. (The toolbar should appear either floating on the worksheet or docked to one side. If it's not visible, click **View** to open that menu, point to **Toolbars**, and then click **PivotTable**.)

Exercise 2: Lay out the report

In this exercise you'll summarize 799 rows of information from the source data (sales figures) into a brief PivotTable report.

Lay out the report to answer this question: What are the total sales figures for each salesperson? Remember that the sales figures are contained in the **Order Amount** field.

Here's how:

1. From the **PivotTable Field List**, drag the **Salesperson** field to anywhere in the drop area labeled **DropRow Fields Here**. When you drop the field into the drop area, the outline for that area disappears and you see each salesperson's name (one name per row).

Notice that the name of the **Salesperson** field is now bold on the **PivotTable Field List**, indicating that the field has been dragged onto the layout.

2. Now drag the **Order Amount** field from the **PivotTable Field List** to anywhere in the drop area labeled **Drop Data Items Here**.

If the data in the PivotTable report looks like this, you now have the total sales figures for each salesperson:

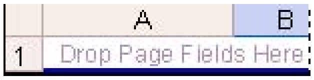
Buchanan	68792.25
Callahan	123032.67
Davolio	182500.09
Dodsworth	75048.04
Fuller	162503.78

Exercise 3: Create a page field

Remember that we have sales figures for salespeople from two countries, UK and USA. With a page field, you can choose whether to see the data for all countries at once, or for one country at a time.

Here's how:

1. On the **PivotTable Field List**, select and drag the **Country** field to the **Drop Page Fields Here** area, which looks like this:



After you drop the **Country** field, you can see different page views.

Here's how:

2. Click the downward-pointing arrow alongside the **Country** field heading:

3. Select **UK**, and then click **OK**. Now you can see just UK sales figures. To see all countries again, click the downward-pointing arrow again, select **(All)**, and then click **OK**.

Note: Downward-pointing arrows on field headings indicate that you can select how much detail to display in the report. For example, clicking the arrow on the **Salesperson** field reveals a list containing each salesperson's name. To show only some of the names, click the box beside **Show All** to clear all the check marks. Then click beside each name you want to display, and then click **OK**.

4. To display all the names again, click the arrow on the **Salesperson** field, click the box beside **Show All**, and then click **OK**.

Exercise 4: Create a new layout to get the answers to a different question

Create a new PivotTable report to answer this question: What are the total sales figures, broken down by country? You could answer the question by first dragging all the fields off the layout and then dragging fields on again, but this exercise shows you how to make changes without completely starting over.

Here's how:

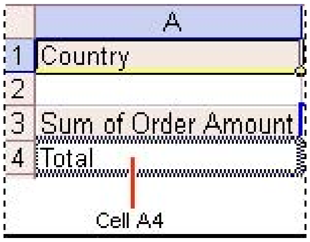
1. On the PivotTable layout, click the **Salesperson** field heading,

and drag it anywhere outside the layout area. For example, drop it in cell D2. You're dragging the field off the report because we no longer want to see the total Salesperson sales.

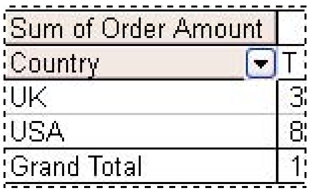
Note: A red "X" appears beneath the insertion point after the field is dragged outside the layout. The X means the field is removed from the report layout. The X disappears when you release the mouse button.

Note: If you happen to click a cell outside of the report, the field list will disappear. To get it back, click inside the report again.

2. From the PivotTable layout, drag the **Country** field to cell A4.

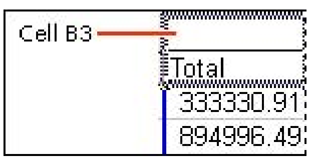


Notice that while you're dragging the **Country** field, it looks as though it is still located in A1. As soon as the insertion point is in cell A4, a heavy gray line appears around the cell. That's when you should drop the field in cell A4. You're replacing the **Salesperson** field with the **Country** field to see the total Country sales instead of the total Salesperson sales. The report updates to show the country names in rows, showing the total sales figures, broken down by country.



Tip: Instead of dragging the **Country** field to the row fields area, you could drop the field to the column fields area to see the countries in column orientation.

3. Click the **Country** field heading, and then drag and drop it to cell B3, which is the cell just above "Total." Do you remember that the **Drop Column Fields Here** area was in this location before you dropped the **Order Amount** field on the layout? The area is still there for you to use even though you can't see its name.



The report updates to show the country names in column, rather than row, orientation.

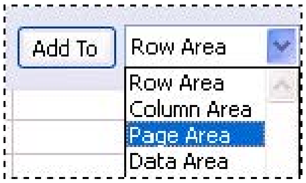
Exercise 5: Add fields to the layout area using menu commands

Not big on the drag-and-drop method? Try using commands instead of dragging to move the fields onto the layout area. Before you start, drag all the fields off the PivotTable report.

1. **Hint:** Follow the steps in Exercise 4 to drag fields anywhere outside the layout area. Notice that as you drag fields off the layout area, the field names are no longer in bold face on the **PivotTable Field List**.

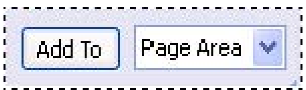
You'll create the same PivotTable report that you made in Exercises 2 and 3, except that this time you'll use menu commands to drop the fields.

2. First, let's "drop" the **Country** field off the **Pivot Table Layout** area.
3. On the **PivotTable Field List**, click the **Country** field.
4. At the lower right corner of the field list, click the down arrow and then select **Page Area** in the drop-down list.



If you can't see the bottom of the field list, drag it higher up on the workspace.

5. Click **Add To** to add the **Country** field to the **Drop Page Fields Here** area.



6. Repeat the steps above to add the **Salesperson** and **Order Amount** fields to the **Drop Row Fields Here** and **Drop Data Items Here** areas, by selecting **Row Area** and **Data Area** respectively, in the drop-down menu.

Tweak a PivotTable report

Exercise 1: Rename a field heading

Here's how:

1. **Open the "PivotTable nitty-gritty3.xls" file** in the Pivot Tables Training Files folder on the desktop.
2. At the bottom of the worksheet, click the PivotTable tab to see a PivotTable report. Then click **Sum of Order Amount** in cell A3 (the field heading in the gray box that sits on top of the **Salesperson** field heading), type **All Orders**, and press ENTER.

Exercise 2: Change sort order

In this exercise you'll change the sort order so that names are listed in order by the amount sold instead of alphabetically by name.

1. Click **Salesperson**.

2. On the **PivotTable** toolbar, click **PivotTable**, and then click **Sort and Top 10**.

Note: You may need to click the double chevrons at the bottom of the menu to see the **Sort and Top 10** command.

3. Under **AutoSort options**, click **Descending**.
4. In the **Using field** list, click the down arrow and select to sort by the new title you gave the **Sum of Order Amount** field in Exercise 1. For example, if you renamed the field **All Orders**, click that name. Click **OK**.

Now the report shows the sales by salesperson in descending order, starting with proud Peacock, who sold the most, and ending with blushing Buchanan, who sold the least.

Exercise 3: Format numbers

In this exercise you'll format the amounts sold as currency.

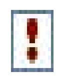
1. Click any cell that contains numerical data in the data drop area. For example, click cell B5.
2. Click the **Field Settings** button on the **PivotTable** toolbar, and then click the **Number button**.

3. In the **Format Cells** dialog box, click **Currency** in the **Category** list.
4. In the **Decimal places** list, click the downward-pointing arrow to get 0 in the list. This will get rid of the decimal places.
5. Click **OK** and then click **OK** again.

Exercise 4: Refresh data

In this exercise you'll revise a number in the source data. Then you'll update the change in the report.

1. At the bottom of the worksheet, click the **Practice** tab to switch to the source data.
2. In cell C2, revise "$440.00" to $5,000.00" and press ENTER.
3. Click the **PivotTable** tab at the bottom of the worksheet to switch back to the PivotTable report. Notice that the total for Buchanan is $68,792.
4. Click the **Refresh Data** button on the **PivotTable** toolbar.



(By the way, if the **Refresh Data** command is not available, just click inside the PivotTable area.) Buchanan's total updates to $73,352 and Buchanan is no longer last in the sorted list. Now Suyama is last.

Exercise 5: Change how data is summarized

Suppose that instead of finding the total sales amounts for each salesperson, you'd like to count the number of orders each person took.

1. Click any cell in the data area. For example, click cell B5.
2. Click the **Field Settings** button on the **PivotTable** toolbar.

3. In the **Summarize by** list, click **Count**, and then click **OK.**

Now the report displays the number of sales each person made, but the numbers are formatted with the currency format you selected in Exercise 3.

4. To get rid of the currency formatting, repeat the steps in Exercise 3, and in the **Category** list, select **General**, then click **OK** and click **OK** again.

Exercise 6: Delete the PivotTable report

Try something new: deleting a PivotTable report. This procedure only deletes the report, it does not affect the source data.

1. Click the PivotTable report.

2. On the **PivotTable** toolbar, click **PivotTable**, point to **Select**, and then click **Entire Table**.

   Note: You may need to click the double chevrons at the bottom of the menu to see the **Select** command.

3. On the **Edit** menu, point to **Clear**, and then click **All**.
   The report is deleted, and you'll see an empty worksheet. The source data is still contained on the Practice worksheet.

Tip: You can also delete the report and the worksheet it's on by right-clicking the sheet tab and then clicking **Delete**. You'll see a warning that you're about to permanently delete the data; go ahead and click **Delete**.

Beyond the basics

Exercise 1: Use two fields in the same drop area

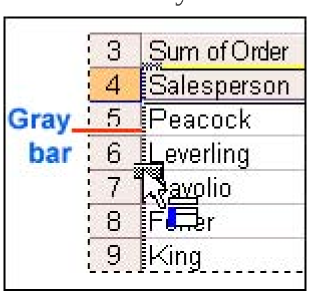
1. **Open the "Beyond the basics4.xls" file** in the Pivot Tables Training Files folder on the desktop.
2. Make sure the **PivotTable Field List** is displayed.

If you can't see the field list, click in the PivotTable report. If you still don't see the field list, click the **Show Field List** button on the **PivotTable** toolbar (the toolbar should appear either floating on the worksheet or docked to one side). If the **PivotTable** toolbar is not visible, click **View** to open that menu, point to **Toolbars**, and then click **PivotTable**.

To compare sales by individual salesperson by quarter, begin by adding the **Order Date** field to the **Row** drop area on the report, which will make **Order Date** the second row field in the report.

Here's how:

3. From the **PivotTable Field List**, drag the **Order Date** field to the left of the **Salesperson** field.
   You'll know you're in the correct place when a gray bar appears on the extreme left side of cell A4:



The result? Sales results are by day, followed by a total for the day. In the next exercise, you'll see how to group the daily information into quarters.

Exercise 2: Group the order dates by quarter

1. Right-click cell A7 in the **Order Date** field. Note that you can't click just any cell in the report in this step—you must click a cell that's included in the **Order Date** field. For example, don't click the

subtotals in column C, or a heading for a subtotal such as cell A6, or you won't be able to do step 2.
2. Point to **Group and Show Detail** on the shortcut menu, and then click **Group**.
3. In the **Grouping** dialog box, click **Quarters**. If **Months** is also selected, click it to clear it, and then click **OK**.

Now sales figures are broken down by quarter on the left, with each salesperson's name listed to the right for each quarter.

Remember inner and outer fields from the lesson? Items in the inner field are repeated as needed, but items in the outer field are displayed only once. In this report, **Salesperson** is the inner field, so all the salesperson names are listed for each quarter. **Order Date** is the outer field, so the quarters are listed one quarter at a time.

Exercise 3: Rename the Order Date field

To make the heading match the new grouping, rename the order date field.

Here's how:

1. Select the **Order Date** field. Type **Qtr**, the new name, and press ENTER.

Exercise 4: Trade places to get a different view

In this exercise you'll pivot the report to compare individual performance from quarter to quarter.

Here's how:

1. Drag the **Qtr** field to the right of the **Salesperson** field. Remember, the field is the gray box in the report that contains the name **Qtr**. Release the mouse button when you see a gray bar on the boundary between column B and column C.

Pivoting the report switched the location of the inner and outer fields. In this report, **Qtr** is the inner field, with all four quarters listed in sequence. Now **Salesperson** is the outer field, so the names of the salespeople are listed one at a time.

Next, pivot the report back to the original view.

Here's how:

2. Drag the **Qtr** field to the left of the **Salesperson** field. Release the mouse button when you see a gray bar on the left boundary of column A.

Exercise 5: Try something new

What's behind Peacock's success in the first quarter? In this exercise, you'll find out.

Here's how:

1. Double-click cell C5, which contains the sales figures for the first quarter for Peacock.

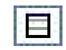
A new worksheet called **Sheet1** is added to the workbook. It includes all the sales figures that were summarized to get the first quarter results for Peacock. The same figures are still in the original source data; nothing was deleted from that data to make up the new worksheet. <u>You could either delete or keep the new worksheet.</u>

Sum it up another way

Exercise 1: Use the same data field again and change how the field is summarized

In this exercise, you'll figure out the number of sales made by each salesperson per quarter by dragging the **Order Amount** field onto the **Data** drop area again and then selecting a different summary function.

1. **Open the "sum it up another way5.xls" file** in the Pivot Tables Training Files folder on the desktop.
2. If necessary, click anywhere inside the report to display the **PivotTable Field List**.



   If you still don't see the field list, click the **Show Field List** button on the **PivotTable** toolbar.
3. On the **PivotTable Field List**, click **Order Amount** and drag it anywhere inside the field that contains order amounts. For example, drag it to cell C6.

   The report now has two data fields: **Sum of Order Amount** and **Sum of Order Amount2**.

4. Click any cell that's labeled **Sum of Order Amount2** and then click the **Field Settings** button on the **PivotTable** toolbar.
5. In the **Summarize by** list, click **Count**, and then click **OK**.

Now the two data fields are **Sum of Order Amount** and **Count of Order Amount2**.

The **Count of Order Amount2** cells now show the number of sales each salesperson had in each quarter.

Exercise 2: Format the report

Since the report isn't very easy to read, and we're through pivoting the report for now, let's change the format.

1. Click in the report, and then click the **Format Report** button on the **PivotTable** toolbar.
2. In the **AutoFormat** dialog box, click **Report 5** and then click **OK**.

Now change the name of the **Count of Order Amount2** field.
Here's how:

3. Select the **Count of Order Amount2** field heading. Type a new name, **Order #**, and then press ENTER.

If you'd like to make column D narrower to fit the new name, just double-click the boundary to the right of the "D" in the column heading.

Note: Another way to change field heading names is to select the field heading in the report, click **Field Settings** on the **PivotTable** toolbar, and then type the new name in the **Name** box in the **PivotTable Field** dialog box. Now your report looks much better and is easy to read.

Exercise 3: Display numerical data as a percentage of the total

In this exercise, you'll show data as a percentage of the total by using a custom calculation that shows the relationship between each salesperson's sales and the total amount of sales. You could drag the **Order Amount** field on the report again, but in this exercise we'll just change how Excel calculates the **Order #**

field already on the report.

1. Click in one of the cells in the **Order #** field.
2. On the **PivotTable** toolbar, click the **Field Settings** button
3. In the **Summarize by** list, click **Sum** to change the summary from Count to Sum. We want to show a percentage of the totals added up, not counted up.
4. Click the **Options** button.
5. In the **Show data as** list, click the arrow, scroll down the list, and then click **% of total**. Click **OK**.

The number of orders is now displayed as a percentage of the total number of orders.

6. Now change the field heading from **Order #** to **Order %**. You could also change **Order Amount** to **Order $** to save a little space. See the steps at the bottom of Exercise 2 for how to change the name.

Tip: If you want to display the percentages without the two decimal places, click the **Order %** field heading, click the **Field Settings** button on the **PivotTable** toolbar, and then click **Number**. In the **Decimal places** list, click the arrow to get to **0**. Then click **OK** and then click **OK** again.

Create A PivotChart Report

A **PivotChart** is a chart that graphically represents data in a PivotTable report. They can only be created from an existing PivotTable report.

Exercise 1: Creating a PivotChart Report

1. With the "**sum it up another way5.xls"** file open, from the pivot table report, **click the Chart Wizard button.**
2. A chart based on the pivot table data is created on a new tab called **Chart1**.
3. On the top left portion of the chart, click the **Country drop-down list**. Select the **"USA"** option. **Click OK**. Notice the chart displays only the USA salespeople.
4. On the top left portion of the chart, click the **Country drop-down list**. Select the **"UK"** option. **Click OK**. Notice the chart displays only the UK salespeople.
5. On the top left portion of the chart, click the **Country drop-down list.** Select the **"ALL"** option. **Click OK**. Notice the chart displays all the salespeople.

6. On the bottom of the chart, click the Qtr drop-down list. Select the **(Show All)** option to deselect all the options in the list. Click the **Qrt1** option. **Click OK**. Notice the chart displays all the salespeople for Qtr1 only.
7. On the top left portion of the chart, click the **Country drop-down list**. Select the **"USA"** option. **Click OK**. Notice the chart displays only the USA salespeople during the Qtr1.
8. On the bottom of the chart, click the **Qtr drop-down list**. Click the **Qrt2** option. **Click OK**. Notice the chart displays all the USA salespeople for Qtr1 and Qtr2 only.
9. Click on the Practice tab which has your pivot table report and notice that it reflects your charts data.