THE UNIVERSITY of ADELAIDE

Mastering Excel Pivot Tables

Video transcript: Adding records using a dynamic data source

In the last lesson we looked at adding new records to the data, then updating our pivot tables data source to incorporate these new records.

Knowing how to change the data source will definitely come in handy, but – when the data source is a working file (that's likely to grow over time), it'll be much easier if the source grows automatically.

In this lesson we'll turn an existing range into a dynamic range (that automatically grows), then create a new Pivot Table based on the dynamic range.

To turn any Excel data range into a dynamic range, simply convert it to a table.

Select all of the data (I find it easiest to use the keyboard shortcuts for this). Select A1, then hold CTRL and press A to select all of the data range.

With all of the data range selected, from the Insert tab of the ribbon, click the Table command button.

The 'create table' dialog box appears and requests just a little bit of information.

1. Where is the data for your table.

If the range was selected correctly you won't need to do anything – just check that the range is right (A1 through to O180).
If the range is correct, you're all set.
IF the range in the box isn't A1 : O180, we'll need to reselect it. Simply clear the address in the box and re-select. Click A1 and use the keyboard shortcuts CTRL+SHIFT+Down arrow to select A1:A180, then CTRL+SHIFT+Right arrow to increase selection to A1:O180. Check the address shown in the dialog box.

2. My Data Has Headers

As the first row of our data is the title for each column, we'll ensure this box is checked.

3. Click OK

We've now turned our static data source into a dynamic data range – an Excel table.

Notice that when your table is selected, theres an additional tab on the ribbon the Table Design ribbon tab. On this tab you'll find lots of great tools for working with tables, but that's a topic for another day. Today we're simply going to notice the name that has been given to our table 'Table1'.

Our range of cells can now be referred to by the range name 'Table1' instead of the address A1:O180.

On the TableDesign ribbon tab, click Summarise with Pivot Table to create a pivot table from our dynamic range.

When that Create Pivot Table dialog box appears, notice that the Table/Range is pre-populated not with the range address (A1 through to the O180), but with the range name (Table1), because we now refer to that range as Table1.

Happy with the range, we'll choose new worksheet and click OK.

In our Pivot Table we'd like to summarise the number of reports per project, per incident type.

Drag the Report Number field into the values area, to count the items in this field

Drag the Project into the Rows area

Drag the Incident Type field into the column area

It is a bit hard to read this. There's just single-digit or double-digit numbers in the actual values but columns that are quite wide, so lets make our columns a little narrower. Select the column labels (B through to K) and change the column width to 5.

I find it easiest to select column B, then use the horizontal scroll bar to scroll across until I can see column K on the screen, then hold Shift whilst clicking the column label for column K. Right click on any of the column labels in the range B to K and choose column width. Enter 5 in the column width dialog box and click OK.

Now that we can see it all on our screen, that's definitely easier to read. Well except for the Incident Type in the column headers anyway.

We can format the column headers in a number of different ways to make it more readable, but I think just changing the text direction (so it goes down the cells instead of across) will be best. Select the column headers (cells B4:K4). From the Home tab of the ribbon, click the Orientation drop down box and change the text direction. I like Rotate text up, but you can rotate it down if you prefer.

Now we've created a dynamic range and we've created a pivotable based on a dynamic range, let's add to the data source.

We've had a report of 1 first aid injury that happed to a worker on the Orange Energy Project. It's obviously not yet recorded in the data – as we can see that the Pivot Table shows no first aid injuries for that project. So let's add it to the Incident Register.

Activate the Incident Register worksheet. In column A, select the first blank cell (that's in row 181). Let's pop our incident details in here. Incident Number is CPM2288. Notice as soon as we move on (press tab to select the next cell), the formatting that is applied to the cells above, is now applied to row 181.

Scroll across to the right and see at the very end of the table (the bottom right hand corner of the Days restricted duties column) this funny little character that looks like a right aligned tab stop or a backwards L appears. This character denotes the end of a table. Previously this was in O180, now that our table has grown to include this new record, the table now ends in O181.

Populate the rest of the incident details.

Date occurred = 01/04/2023, Injured Employee = Alby Robers, Project = Orange Energy Corp, Detail = Struck thumb with hammer; Notifiable = No, Investigation = No, Cause = Hit by Moving Object; Incident Type = First Aid Injury; Immediate Corrective Action = Applied Ice; Injury Type = Crush; Location (General) = Arm; Specific Location = Hand; Days Unfit = 0; Days on Restricted Duties = 1

We've added another record to our data source. It is a First Aid Injury that occurred at Orange Energy Corp. Let's return to our Pivot Table and notice that we still don't see any First Aid Injuries for Orange Energy Corp – because we haven't refreshed our pivotable.

Use your preferred method to refresh your pivot table, whether that's right-click & refresh, ALT+F5 or the Refresh button on the Pivot Analyze tab of the ribbon. And notice that we now have a 1 in the First Aid Injuries for Orange Energy Corp.

Great! Adding records to cells directly adjacent to an existing table, makes the table automatically grow to encompass the new records which in turn increases the source range for our Pivot Cache enabling simpler refreshing of the data.

We no longer have to manually change the source data to analyse our working file.