WEEK 4 — POWER BI

Power BI is Microsoft's Business Intelligence tool that includes Power Query, DAX, and powerful visualisation tools.

GETTING AROUND IN POWER BI

There are 3 main views in Power BI: Report, Data, and Model. Report view is where you use visualisations to display your data. The Data view is an Excel-like view of the raw data. Model view allows you to review and modify the relationships between the data tables. When importing data, you have the familiar Power Query interface.

CALENDAR TABLES

To work with time intelligence functions, you need a calendar table. You can import one with Power Query, generate one using M, or create it with DAX. Remember to mark it as a date table and create relationships to the other tables.

CREATING VISUALISATIONS

With nothing selected in the report page, if you tick a field or measure the default visual for that field is added to the report. Or click on the visual you want from the Visualizations pane. To change a visual, select the visual in the report then click on the required visual in the Visualizations pane.

VISUALISING NUMBERS

If you want to display numbers rather than graphs, you can use the Card, Table, or Matrix visuals. A Card will display a single number. Tables display multiple columns of data that is not aggregated. A Matrix is like a PivotTable in Excel, so it will aggregate by category, and you can drill down into categories.

FORMATTING VISUALISATIONS

On the Visualizations pane you can access the Format tools. Here you can change the legend, titles, colours, font size, and other settings.

CONDITIONAL FORMATTING

One of the formatting options for the Table and Matrix visualisations is Conditional formatting. Like Excel you can change colours and add data bars or icons. Use Advanced controls for more options.

FILTERS AND SLICERS

On the Filters pane you can work with the filters applied to the current visual, the current page, and the entire report. Fields used to create the visual will show automatically and you can add more fields as needed. Expand each filter to see more options. Available options will depend on the field data type.

Slicers are a type of visual that can be added to a report and act like a filter. By default, it will act on all visuals on a page. Go to **Format ▸ Edit interactions** to choose which visuals are affected. In **View ▸ Sync slicers** you can show and link a slicer to multiple pages in the report.

SHARING REPORTS

You can export the report to a PDF or publish it to the Power BI service. **My Workspace** is just for you, use a shared workspace so that other people can see your reports. You can export to PowerPoint from the Power BI service

DAX FUNCTIONS

The DAX functions that we have looked at are:

CALCULATE – evaluate an expression with the specified filters.

SUM – adds the values.

DIVIDE – you can divide using the / operator, however you will get an error if you divide by 0. This function allows you to specify what happens in this case.

COUNT, DISTINCTCOUNT – counts values, either all values or only distinct values.

MAX, MIN – find the maximum or minimum value.

YEAR, MONTH – extract the specified part of a date as a number. Use **FORMAT** if you want the month name or the year in a particular format.

FORMAT – converts a value (number/date) to the specified format.

VALUE – convert text to a number.

CALENDAR, CALENDARAUTO – create a table with a Date column. CALENDARAUTO uses the dates in the model; with CALENDAR you specify the dates.

PREVIOUSMONTH – returns all the dates from the previous month.

SAMEPERIODLASTYEAR – returns the dates one year earlier than the given dates.