Activity 5: Analytics Lines

Learner Guide

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How to use this workbook

Activity

Alongside this icon you'll find details of the group/individual activity or a point for everyone to discuss.

Useful tool

This icon indicates a technique that will help you put what you learn into practice.

Important idea or concept

Generally, this icon is used to draw your attention to ideas that you need to understand by this point in the course. Let your trainer know if you do not understand or see the relevance of this idea or concept.

Helpful hint

This icon guides you to tips or hints that will help you avoid the common pitfalls or to show you how to increase your effectiveness or efficiency in practising what you have learnt.

Key point

This icon is used to indicate something that practitioners in this field should know. It's likely to be one of the major things to remember from the course, so check you do understand these key points.

Reference material

When we have only touched briefly on a topic, this icon highlights where to look for additional information on the subject. It may also be used to draw your attention to International or National Standards or Web addresses that have interesting collections of information.

Definition

Where a word with a very specific definition (or one that could be described as jargon) is introduced, this will highlight that a definition is provided.

Warning

This icon is used to point out important information that may affect you and your use of the product or service in question.

Analytics Lines

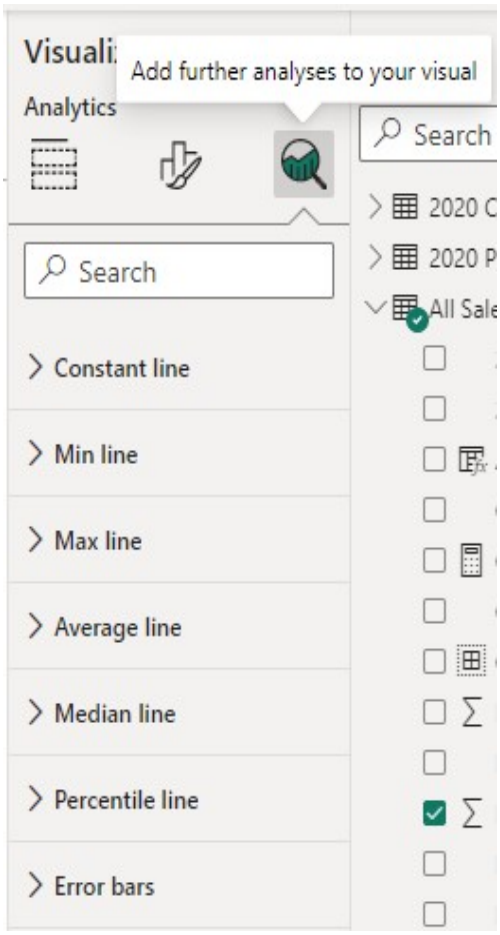

Chart visualisations also allow, in most cases, for the addition of lines to be drawn by Power BI to represent values. The lines are found in the Analytics pane which is displayed by selecting the magnifying glass icon.

The option list shown is available if the chart type has two axes and each plotted data point represents a single value.

Charts which do not show an axis, such as pie or tree map, do not support Lines.

A **Constant** Line is the default for all visualisations which support Lines except for a Scatter. It uses a value entered by you and is often used to represent a 'target value' across a chart (used to be called a Reference Line.)

X-Axis Constant Lines and **Y-Axis Constant** Lines set a value to act as a comparison point across the required axes.

The following Lines use the corresponding aggregate function to automatically calculate their value and to determine their position on the chart:

- Min Line
- Max Line
- Average Line
- Median Line
- Percentile Line – defaults to a 90% value of the selected field. This can be altered as required but cannot exceed 100%.

Task 1

Guided activity:

Adding a forecast to a visualisation

Scenario

Phone handset sales are being tracked over time. The business needs to look at potential future numbers for online transactions and has asked for a forecast to be available for the next team meeting. The forecast needs to be presented visually.

Guided activity

1. Start a new pbix file connecting to the **18 Months Sales.xlsx** file and use the contents of the **Phone Units** sheet. Select **Transform Data** to ensure only the **Online** data from the **Channel** field is included. **Close & Apply**.
2. Add a **Line** chart to the report. **Drag Year** to the **X-axis** and **Units Sold** to the **Y-axis**.
3. Use the Analytics pane to add a **Forecast**.
4. Use your mouse cursor on the chart to identify the forecast value for December 2023 along with the upper and lower bound figures. What is the forecast value for December 2023?
5. Change the default **Forecast** length from **10** Points to be **3 Months** and select **Apply**. Approximately what value is predicted after the three months?
6. Change the **Seasonality** to be **2**. What is the forecast value now after three months?
7. Save the pbix file as **Online Forecast.pbix** and close it.

Task 2

Guided / independent activity:

Using insights in a chart

Scenario

Insurance product sales and premiums have been tracked over time. It has been noted anecdotally that sales rise and fall over time. Explanations for the changes have been requested.

Guided activity

1. Start a new pbix file connecting to the **Insurance.xlsx** file and **Load** the **Premiums** sheet.
2. Create a clustered column chart with **InceptionDate** in the X-axis, **ProductType** in the Legend, and **AnnualPremium** in Y-axis.
3. Filter the chart to only show **2022** Inception Dates and **Life** as a Product Type.
4. Change the chart to only show **Months**.
5. Right-click on the **Life** data for the month of **February** and select **Analyze**, **Explain the decrease**.
6. In the dialog box, scroll if required to find the waterfall chart which references the countries. Add the chart to the page using **+** in the top right corner.
7. Click away from the Insight dialog box to close it.
8. Duplicate the waterfall chart and change the duplicated chart to a **ribbon chart** and add it to the page.
9. Which **country** accounted for most of the **decrease**?
10. Rename the page as **Life**.
11. Duplicate the page and remove the **ProductType** filter, waterfall, and ribbon charts.
12. Rename the new page as **Public Liability** and continue the activity below.

Independent activity

1. Add a waterfall chart to the page. Keep the y axis as sum of **AnnualPremium**, add **Region** to breakdown and the category as Inception Date – Month and ProductType
2. Which region accounted for the majority of August's increase in Public Liability sales?
3. Add the following filters to the filter pane to show
    i months as July and August.
    ii product type as Public Liability.
4. Save the Power BI file as **Insurance Premium Sales.pbix** and close it.

Task 3

Independent activity:

Adding Trend Lines from Analytics pane

Scenario

Fuel consumption figures have been collated over several years and a quick visual representation of trend and averages is required.

Independent activity

1. Start a new pbix file and load the table from **Car and Van Fuel Use.xlsx**.
2. Create a **Clustered Column** chart using **Year** as the **X-Axis** and add both the **Car & taxis** fields for **Y-axis**.
3. Display the **Analytics Pane** by clicking the **magnifying glass**.
4. Add two **average** lines – one for each data series. Rename them as **Average Petrol** and **Average Diesel**. Show the **Data labels**. Set the Data labels to show both name and value, and position the Petrol label to the right.
5. Add a **Trend Line**. Turn **Combine Series off** and set the lines to be **solid**.

6. Experiment with the different lines available, e.g., Percentile and Constant together with any options you have for controlling their appearance.
7. Save the file as **Fuel Lines.pbix**, then close it.