

Tracking several measures

1.

Open workbook 2_1_combo_charts.xlsx and go to the Combo charts sheet.

The pre-aggregated data is already present.

Hint

To open a workbook, click on *File > Open...* in the upper menu and open 2_1_combo_charts.xlsx.

2.

Create a *Combo* chart that presents monthly Sales as clustered columns and Orders as a line on one visualization and entitle it "Sales and Orders".

Hint

- To create a *Combo* chart, click anywhere in the data, then, via *Insert > Insert Combo Chart* and select the *Clustered Column - Line on Secondary Axis* variant.
- To change the name of the chart, click on the default *Chart Title* text box on top of the chart and rename it.

3.

Improve the visualization by presenting the Sales measure as wide, gray columns and the Orders measure as a black line.

Hint

- To change the color of the visualization, click on one of its data points on the chart, then, on the left, in *Format Data Series* go to *Fill & Line* menu. Adapt the fill color.
- To widen the columns in the visualization, click on one of the columns on the chart and, on the left-hand-side *Format Data Series* menu, drag the *Gap Width* slider to the left. About 50-55% is a good choice.

4.

Since there seem to be periods with quite some Sales and Orders peaks, you are curious to find out what the Average Sales per Order are, per month.

Calculate this new measure next to the data and include it in the same visualization, represented by a blue line.

(Optionally) add *Axis Titles* by clicking on the "+" next to the chart to provide an explanation which measure(s) are visualized on which axis.

Hint

- The calculation of Average Sales per Order should be placed in adjacent cells, so in column E and should divide the values in Sales by values in Orders.
- To add an adjacent measure to the chart, click on the chart and then, in the cells with data, drag the highlighted blue data area to the right, so that it also contains the Average Sales per Order measure.
- To change the color of the visualization, click on one of its data points on the chart, then, on the left, in *Format Data Series* go to *Fill & Line* menu. Adapt the fill color.
- To add *Axis Titles*, click on "+" next to the chart. Good names for the axes titles are: "Sales" and "Orders and Avg. Sales per Order".

5.

Hover over the data points in the chart to find out which month is characterized by exceptionally high volume of Sales and Orders, and mediocre level of Average Sales per Order?

- Jun-15
- Feb-17
- Oct-18

Hint

In the final solution, you should have:

- Average Sales per Order calculation in column E with C5/D5 formula, copied down all the data cells.
- A *Combo* chart with Sales as gray *Clustered Columns* on the primary axis, and Orders and Average Sales per Order as *Line* charts on secondary axes.

Comparing versus the average

1.

Go to the Bullet chart sheet.

First, visualize both measures, Yearly 2018 Sales and Average Yearly Sales 2014-2019 per Sub-Category on a *Combo* chart. Notice that the names of sub-categories are long, so chose the correct chart type where they can be presented vertically.

Hint

You must create a *Combo* chart, where each series is visualized as a *Clustered Bar*. To do that, click anywhere in the cells with data and go to *Insert > Charts* menu and select the correct chart.

2.

When setting up the *Combo* chart, ensure that the Yearly 2018 Sales are compared to the benchmark, Average Yearly Sales 2014-2019, so chose the correct axis (primary or secondary) for each of these measures.

Hint

Click on *Change Chart Type* and in *Combo* charts, ensure that *Secondary Axis* is ticked for Yearly 2018 Sales.

3.

Synchronize both X axes' bounds from 0 to 100000.

Hint

To synchronize the axes, double-click on each X axis and change bounds *Minimum* to 0 and *Maximum* to 100000.

4.

A well-designed bullet chart presents green and red bars or columns compared to a gray benchmark. Therefore, please ensure that our chart follows this format as well by coloring the bars accordingly.

Lastly, assign a suitable name to the chart: "2018 Sales versus the Average of 2014-2019".

Hint

- To widen the bars in the visualization, click on one of the columns on the chart and, on the left-hand-side *Format Data Series* menu, drag the *Gap Width* slider to the left.
- To change the color of the visualization, click on one of its data points on the chart, then, on the left, in *Format Data Series* go to *Fill & Line* menu. Adapt the fill color.
- To change the title of the chart, click on the default *Chart Title* text box on top of the chart and rename it.

5.

How many Sub-Categories scored worse in 2018 compared to 2014-2019 average?

6

Which Sub-Category's 2018 Sales exceeded the average of 2014-2019 the most?

Copiers

Hint

The final solution should have:

- A *Combo* chart entitled "2018 Sales versus the average of 2014-2019", with two series visualized as *Clustered Bar* charts.

- The Yearly 2018 Sales series are presented on *Secondary Axis*, and colored green if it exceeds the Average Yearly Sales 2014-2019 and red if not.
- The Average Yearly Sales 2014-2019 series are presented as gray bars.
- Both X axes bounds are set to minimum 0 and maximum 100000.

Quarterly profit walkthrough

1.

Go to the Waterfall chart sheet.

Complete the Delta column by populating the yellow cells with correct calculations.

Hint

In the yellow cells, deduct the value of cells in column C, e.g., in cell D6 enter the formula C6-C5.

2.

Create a *Waterfall* chart based on the Delta and Year / Quarter columns.

Hint

- To create a chart, click anywhere in the cells with data and go to *Insert > Charts* menu and select the correct chart.
- Narrow down the blue highlighted area to display only the Delta measure.

3.

Ensure that all "anchoring" data points in the chart so the Delta values for "2015", "2016", "2017", and "END", are represented as gray bars, from 0 to their respective values and display the data labels.

Hint

- To "anchor" a data point to 0, right-click on its column, and select *Set as Total*.
- To add data labels, right-click on any column in the waterfall chart and select *Add Data Labels*.

4.

Finally, color the *Increase* data points green and *Decrease* red and entitle the chart "2015-2018 Quarterly Profit walk-through".

Hint

- To color the chart legends, right-click on the small square next to the legend label and change the *Fill* color
- To change the title of the chart, click on the default *Chart Title* text box on top of the chart and rename it.

5.

Which one of these sentences is correct?

- We had no quarter with a decrease in profit between 2015 and the end of 2017.
- 2017 has been the most successful year in profit growth.
- We more than tripled in profit during 2016, making this our historically high-profit increase year over year.

Hint

The final solution should have:

- A Delta calculation (yellow cells only), e.g., in cell D6, you should have a calculation of C6-C5.
- A *Waterfall* chart entitled "2015-2018 Quarterly Profit walk-through", with *Increase* columns in green and *Decrease* columns in red.

Regional performance quadrant

1.

Go to the Scatter plot sheet.

Experiment with visualizing the data in the cells by trying out various variants of *X Y (Scatter)* charts of *Bullet* variant.

Settle on the one which displays Profit and Sales on X- and Y-axes and uses Quantity to represent the size of the dot/bubble.

Hint

- To create a chart, click anywhere in the cells with data and go to *Insert > Charts* menu and select the desired chart.
- To change the chart, click on it and then access *Chart Design > Change Chart Type* menu.
- The correct chart is a *Bubble* variant of *X Y (Scatter)*.

2.

Entitle the chart "Sales vs. Profit vs. Quantity per Region" and label the data points with Region, displayed centrally in the bubble.

Hint

- To change the chart title, click on the default *Chart Title* text box on top of it and rename it.
- To add data labels, right-click on any bubble in the scatter plot and select *Add Data Labels*.

- Then, double-click on the numbers that appear to access the *Format Data Label > Label Options* menu on the right.
- Untick the *Y Value* labels and tick *Value From Cells* and click on *Select Range...* button. Select the correct cell range to add the cells representing the Region names.

3.

Finally, make it clear which measure is presented on what axis (X or Y) by giving them a title. Optionally, style the bubble and labels according to your linking.

Hint

- To add the axes titles, click on the chart and then on the + sign next to the chart and click on *Axis Titles*.
- To change the color of the bubbles, double-click on a bubble, go to *Fill & Line* in *Format Data Series* menu on the right and change the *Fill* color.

4.

Which Region is lagging in % of Profit?

Central

Hint

The final solution should have:

- A *Bubble* chart:
 - Entitled "Sales vs. Profit vs. Quantity per Region"
 - With four bubbles
 - With Profit on X- and Sales on Y-axis, the Quantity represents the size of the bubble.