Visualizing evolution

1.

Open workbook 3_1_quarterly_sales_evolution.xlsx and go to the Quarterly Sales Evolution sheet.

Your trainee has prepared a chart but he has yet learn that bar charts aren't the best option for visualizing evolution over time. Help him by converting this chart to a more suitable chart type.

Hint

- To open a workbook, click on *File > Open…* in the upper menu and open 3_1_quarterly_sales_evolution.xlsx.

- *Line* charts are ideal in this situation, so click on the chart and access the *Chart Design > Change Chart Type* menu and convert it to a *Line* chart.

2.

Oh… the line chart shows a dramatic drop in sales! Looking at the data in the cells, this isn't true!

Adapt the chart so that the Y-axis is displayed and that the axis' bounds follow the best practices.

Hint

- Click on *Chart Elements > Axes* to bring back the Y-axis to the chart.

- You must adjust the minimum *Axis Bounds* in the *Axis Options* to 0. You can type in 0 or press the *Reset* button.

3.

Add a suitable dynamic chart title, replacing the current one with a more insightful one, ensuring you comment on the recent drop in sales.

Hint

- Click on the chart title and, using the formula bar, reference it to cell B2.

- Then, type a new title over the current "Quarterly Sales evolution".

- A good example would be "Sales have been dropping for the last two quarters".

4.

Finally, find a way to accentuate the drop visible in the last two data points on your chart by playing with *Fill & Line* in *Format Data Series* menu.

Hint

A good idea is to color the line gray and, by selecting the penultimate and then the last data point, change their line fill to red.

5.

Looking on the bright side, which quarter experienced the steepest increase in sales?

- 2017-Q3

- 2017-Q1

- 2016-Q4

Hint

In the final solution, you should have:

- A *Line* chart with Sales on Y-axis, with minimum bounds at 0.

- A chart title, e.g., "Sales have been dropping for the last two quarters", which is not hard-coded but references the cell B2.

Accenting lines

1.

Navigate to the worksheet Accenting Lines. It contains your previous chart, but the cells with data have a more detailed split per top States.

Expand the chart to present sales evolution for the top five States (excluding the Total).

Hint

To add the data points to the chart, click on the chart, and adapt the highlighted cells area within the data cells from TOTAL to data in columns C-G.

2.

- Next, accentuate the top state line by making it thicker and selecting a single, distinct color (we no longer need to highlight the last two data points).

- Smoothen the peaks of the lines to make the chart more visually appealing.

Hint

- To increase the line thickness, click on that line, and in the *Fill* menu within the *Format Data Series* menu, adjust the *Line > Width* to a larger number, e.g., 4.

- To change the line color, in the same menu, select another color in *Line > Color*.

- To smoothen the lines, double-click on the lines in the chart (one by one), then go to the *Fill* menu within the *Format Data Series* menu on the right and tick the *Smoothed line* option.

3.

Draw the attention away from the other lines by making them more transparent, but make sure that the graph remains clear by adding the chart legend.

Hint

- Use the *Line > Transparency* slider to increase line transparency. Doing that, you must again select the color in the *Line > Color* option.

- To add the legend to the chart, click the *+* sign next to the chart and tick *Legend*.

4.

Use the title to highlight the key message regarding the top-selling state, using a full sentence and color in the chart title.

Hint

- Since the chart title still is dynamic (using a formula referencing to a cell), you will need to remove the title cell reference by typing over the chart title, e.g., "Top selling California leaves all other states far behind".

- Then, double-click on the word "California" in the title and, using the *Home > Font* menu, make it bold and change the color to the same color you have used for California state in your chart.

5.

In which quarter did California come close to the second ranked state? Provide the answer in format e.g., 2020-Q1.

2016-Q4

Hint

In the final solution, you should have:

- A *Line* chart with Sales on the Y-axis, minimum bounds at 0, and five lines representing various States.

- The lines on the chart should be smoothened, and the top line should be visibly thicker and bolder than the others, which should have reduced transparency.

- A chart should have a legend and a title, e.g., "Top selling California leaves all other states far behind", which is hard-coded and where the word "California" is highlighted, e.g., by font boldness and color.

Fixing a 3D chart

1.

Navigate to the worksheet Seasonality. It contains a chart prepared by your trainee but it clearly can be improved!

Using the *Chart Design* menu, explore some of the 2D versions of this chart and select the one that works best.

Hint

- Click on the chart to access the *Chart Design > Change Chart Type* menu and consider the charts in *Recommended Charts* or *All Charts* tabs.

- The ideal chart is first option in the *Recommended Charts* and the second variant of the *Column > Clustered Column* chart in the *All Charts* tab.

2.

Improve the coloring of the year legend by using the same color but marking the less recent year with a lighter tone and the most recent year with a darker tone of the same color.

Hint

- The ideal chart is first option in the *Recommended Charts* and the second variant of the *Column > Clustered Column* chart in the *All Charts* tab.

- To change the legend color, right-click on the legend of 2016 and change the *Fill* to, e.g., light blue. Then do the same for 2017 but choose a darker color, e.g., dark blue.

3.

- Ensure that the column values can be read off data labels, formatted as "K" of dollars.

- Declutter the chart by removing the grid lines and the Y-axis.

Hint

- Add *Data Lables* by clicking on the *+* sign next to the chart and tick *Data Labels*.

- To change the denomination to "$ 0K", double-click on the Y-axis and, in the *Axis Options menu on the right*, change the *Display Units* to "Thousands".

- Then click on the data labels on top of the columns and go to *Number* menu on the right, and change the Category to "Custom" and in *Format Code* input $0 "K" format and click on *Add*. Do it for the 2016 and 2017 series.

- Remove the Y-axis by clicking on it and pressing delete.

4.

Which of the following statements isn't correct?

- Except for Q4, sales in 2016 haven't performed better than in 2017.

- In 2017 the sales kept on increasing in the first two quarters.

- Looking at this chart, we cannot conclude that Q3 and Q4 performed much worse in 2016-17 compared to Q1 and Q2.

Hint

In the final solution, you should have:

- A *Clustered Column* chart with Sales on Y-axis (Y-axis is removed from the chart) and with quarters on X-axis.

- Year is presented as a colored legend with two hues of the same color, e.g., lighter and darker blue.

- The columns have data labels in "$0 K" format.

Colorful charts

1.

Navigate to the worksheet Colorful charts. This looks like a rainbow chart!

Remove the color distraction by applying a uniform color to the chart.

Hint

Right-click on any of the columns and change the *Fill* to e.g., a light gray color.

2.

You notice how hard it is to read the Sub-Category labels as they are tilted on the X-axis. Would another chart type work better in this case?

Find a better chart type to improve this visualization.

Hint

Convert the chart to a *Clustered Bar* chart using the *Chart Design > Change Chart Type* menu.

3.

You further inspect all the chart elements. Since the Profit data labels are on the chart, identify which chart element brings no extra value and remove it.

Hint

The X-axis provides the same information as *Data Labels*, so remove it by selecting it and pressing delete.

4.

Finally, you feel like it's your role to draw attention to the most important data points on this chart. You respect the initial idea of your trainee and use color, but apply it only to the top and bottom Sub-Category bars, based on Profit.

- Make sure to choose the appropriate colors.

- Add an insightful title accentuating the key data points in color.

Hint

- Right-click on the top bar and color it green by right-clicking on it, changing the *Fill* color. Do the same to the bottom bar, but color it red.

- Double-click on the current default "Profit" title and add, e.g., "Copiers are our most profitable Sub-Category while Tables generate the least profit".

5.

Looking at our chart, which two categories have the smallest profit difference?

- Bookcases and Tables

- Art and Envelopes

- Copiers and Phones

Hint

In the final solution, you should have:

- A *Clustered Bar* chart with Profit on the X-axis (X-axis is removed from the chart) and with Sub-Category on X-axis.

- "Copiers" and "Tables" bars are colored green and red, respectively.

- The bars have data labels.

- The chart has an insightful title, e.g., "Copiers are our most profitable Sub-Category while Tables generate the least profit." where the words "Copiers" and "Tables" are colored in green and red, respectively.