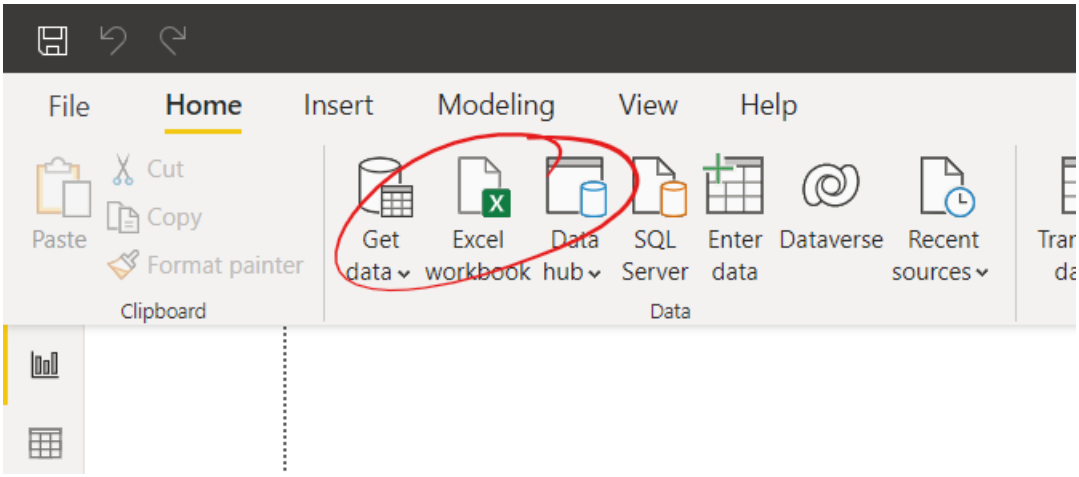
Tutorial

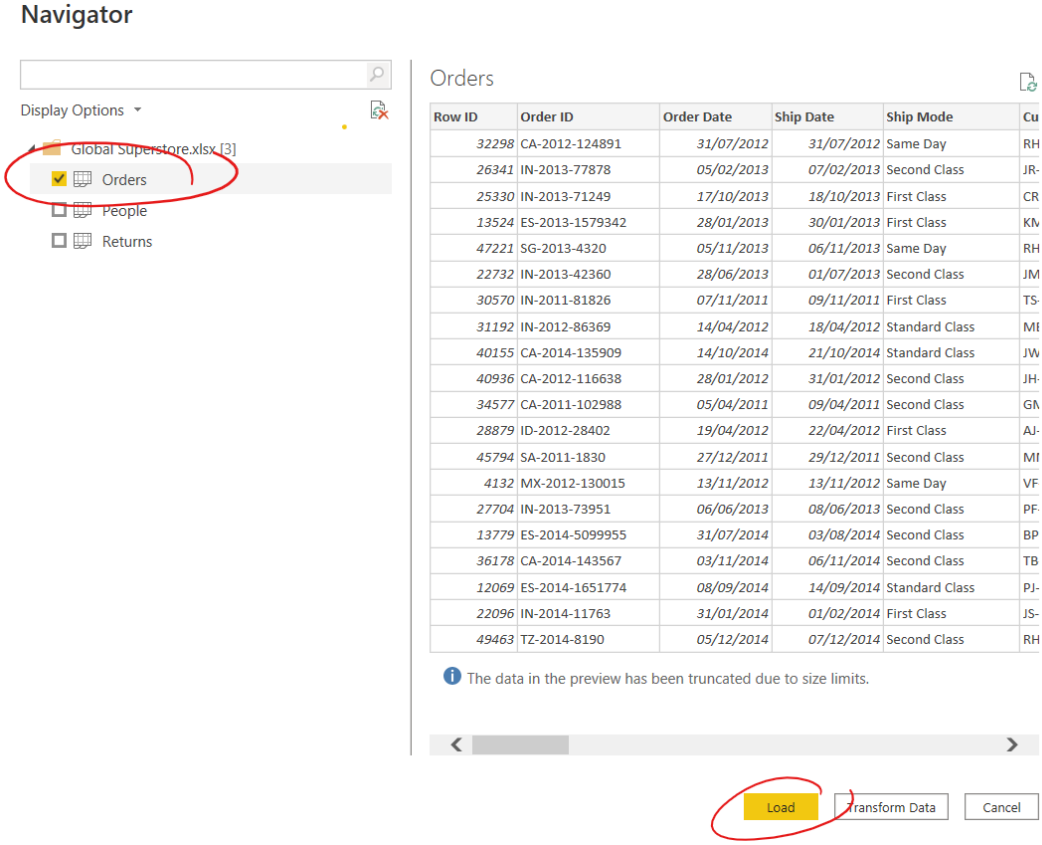
Introduction to PowerBI

Task 1: Get Data

1) Open PowerBI
2) Click on Excel Workbook to load data from Excel



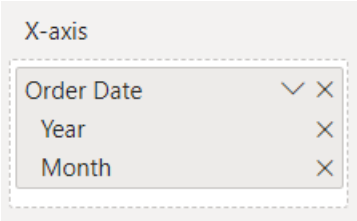
3) Open the file “Global Superstore.xlsx”
4) Tick the “Orders” table and click “Load”

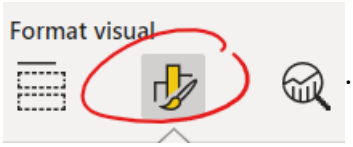


5) Save the Power BI file.

Task 2: Build your first dashboard

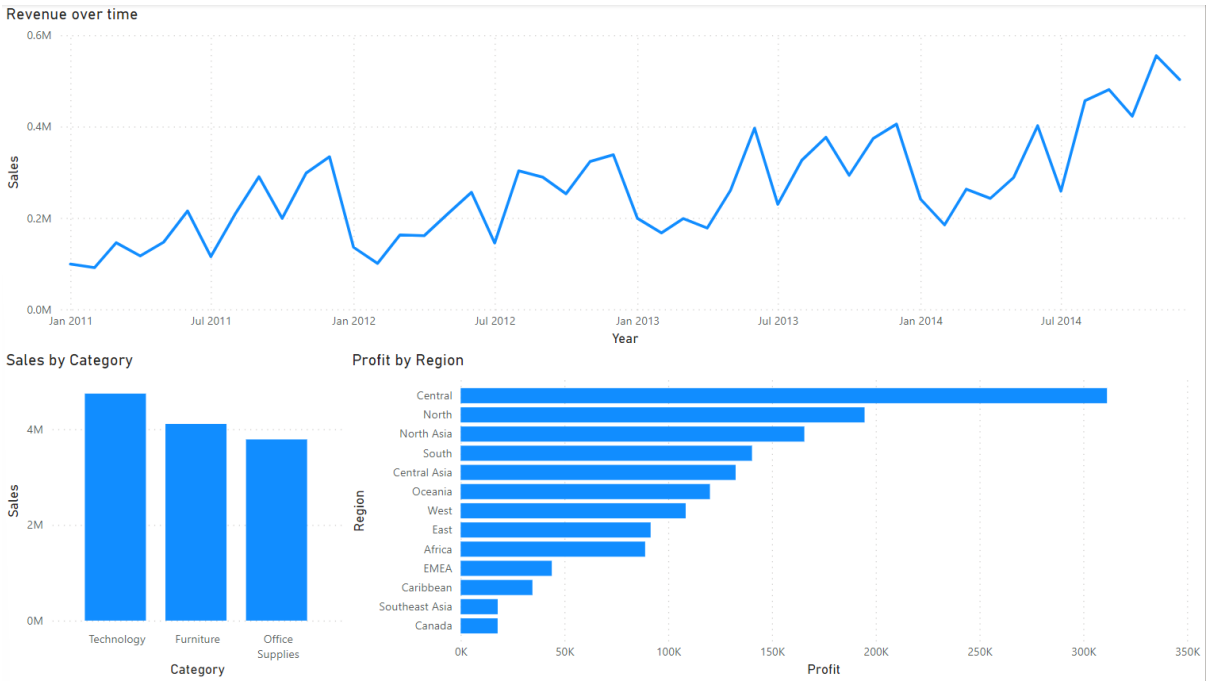
1) Add a line chart to Page 1. It should cover the top half of the page.
2) Drop “Order Date” onto the X-axis.
3) Remove Quarter and Day.



4) Drop “Sales” onto Y-axis.
5) Rename it to “Sales”.
6) Click on “Format”: 

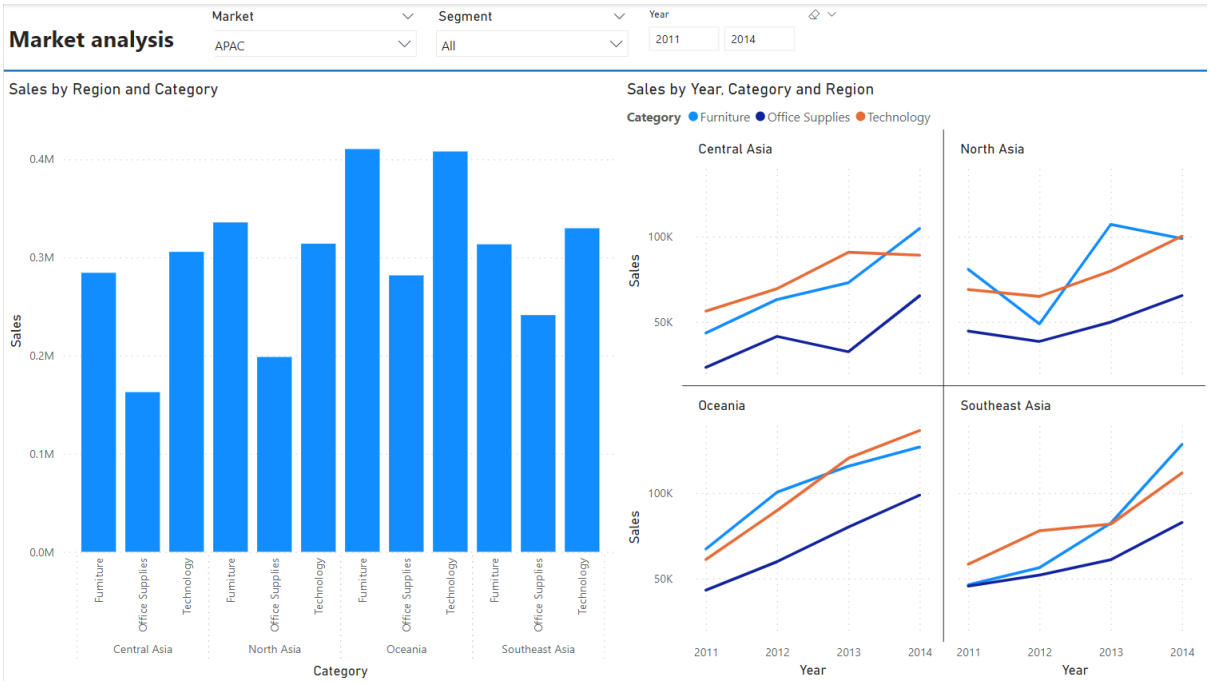
.
7) Select the “General” tab. Expand “Title” and change the text to “Revenue over time”.
8) Add a “Clustered column chart” to the lower left corner.
9) Drop “Sales” on the Y-axis.
10) Rename it to “Sales”.
11) Drop “Category” on the X-axis.
12) Add a “Clustered bar chart” on the lower right corner.
13) Add “Profit” to the X-axis. Rename it to “Profit”.
14) Add “Region” to Y-axis.

Your page should look like this:



Task 3: Build a second dashboard

The completed dashboard should look like this:

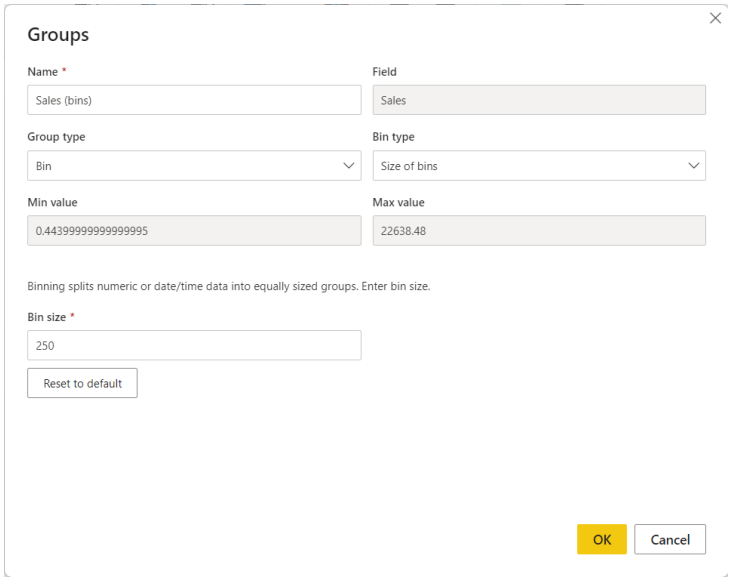


1) Create a new page.
2) Add a text box to the top, and write “Market analysis” in it.
3) Add a slicer to the top of the page.
4) Drop “Market” on Field.
5) Change it to a “Dropdown” slicer.
6) Select “APAC”
7) Add another slicer.
8) Drop “Segment” on Field.
9) Change it to a Dropdown, too.
10) Add a third slicer
11) Add the Order Date to field.
12) Remove all other entries apart from “Year.
13) Change it to a “Between” slicer
14) Add a line below the slicers.
15) Add a clustered column chart.
16) Add “Region” and “Category” to X-axis.
17) Add “Sales” to Y-axis.
18) Rename it “Sales”.
19) Add a line chart next to the bar chart.
20) Add “Sales” to the Y-axis.
21) Add “Order Date” to the X-axis.
22) Remove all entries apart from Year and Month.

23) Drop “Category” to “Legend”.
24) Drop “Region” to small multiples.

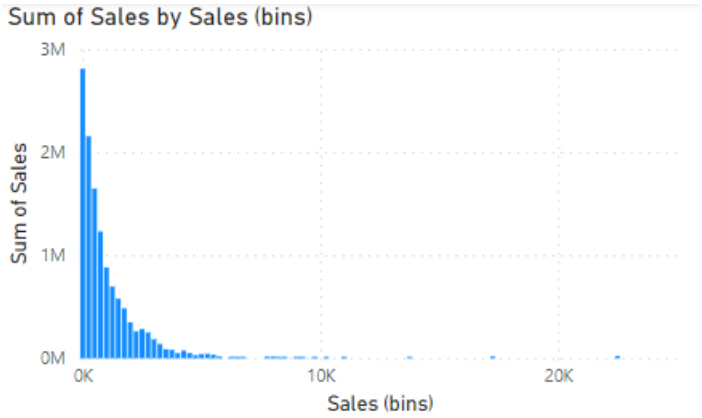
Task 4: Statistical analysis

1) Add a new page and call it statistical analysis.
2) Add a clustered column chart.
3) Create a new group by right-clicking on the “Sales” field and select “New Group”.
4) Select Bin and set the bin size to 250.



5) Drop “Sales (bins)” to X-axis.
6) Drop “Sales” to Y-axis.

Your chart should look like this:



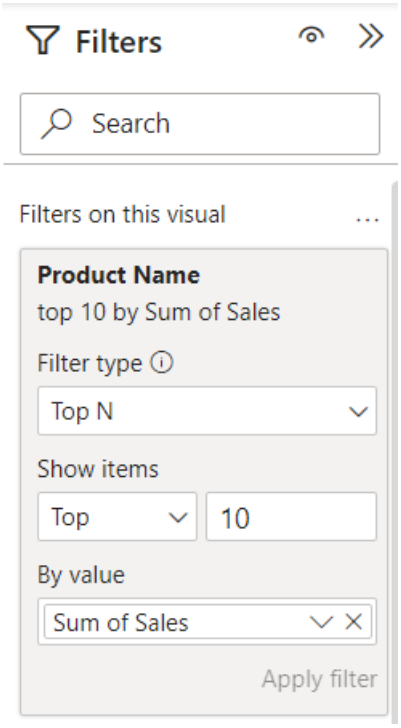
Next, we add a column chart that shows the top 10 best performing products.

7) Add a clustered column chart.

8) Drop “Product Name” to X-axis and “Sales” to Y-axis.

Now this chart shows all products, not just the top 10. We need to add a filter.

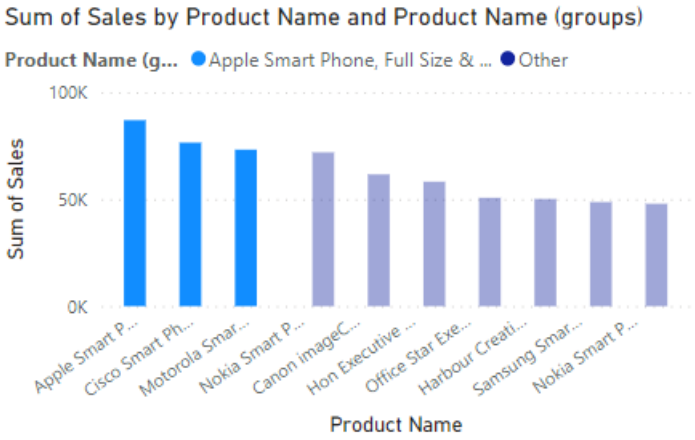
9) Expand the Filter pane (if not already expanded) and configure the following filter:



10) Click on “Apply filter”.

Power BI makes it easy to group data.

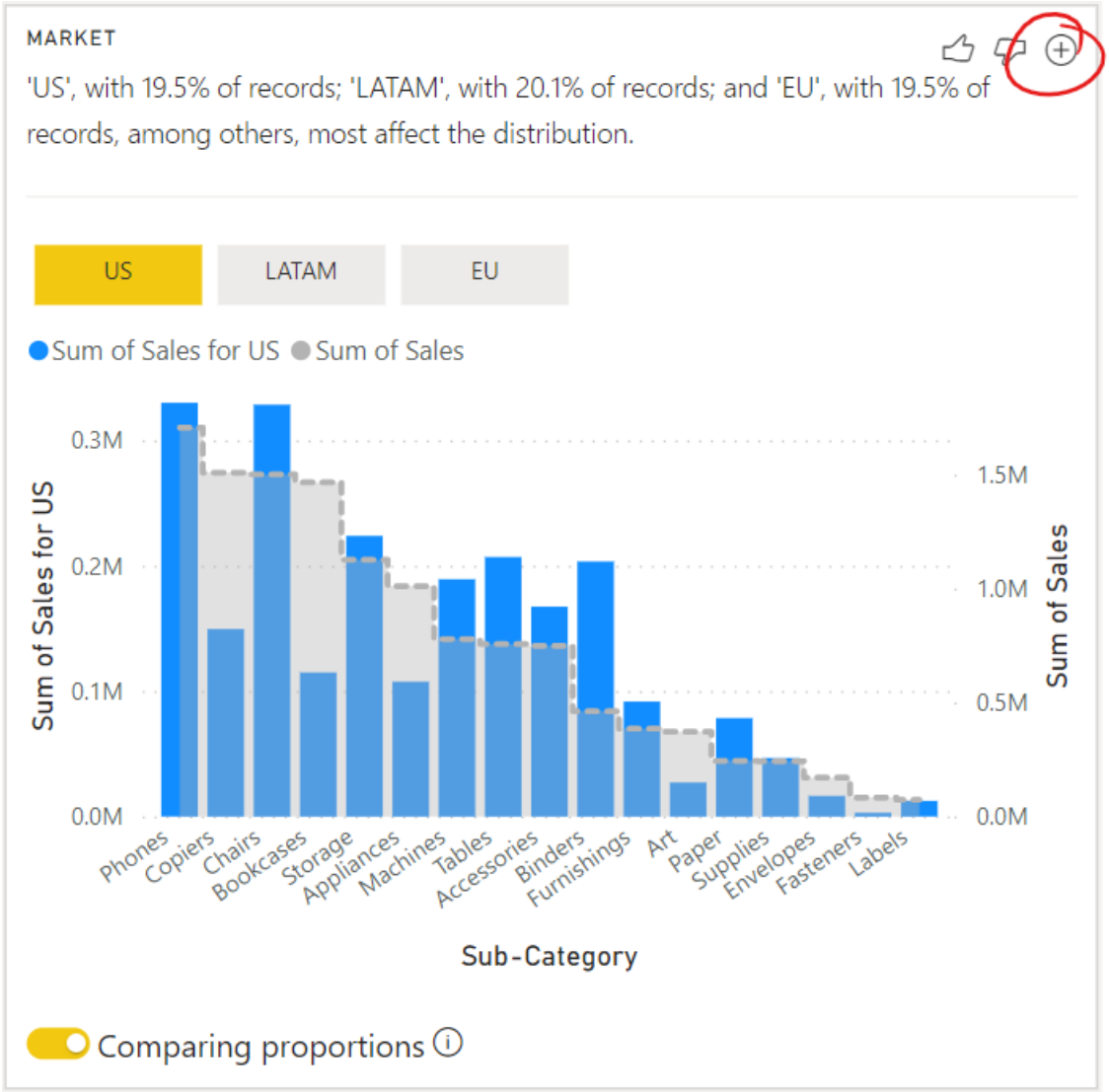
11) Select The top 3 products by ctrl-clicking the first three columns.
12) Right-click on the selection and select “Group”



Power BI created a new variable, “Product Name (groups)”. You can edit the groups by right-clicking the variable and selecting “Edit groups”.

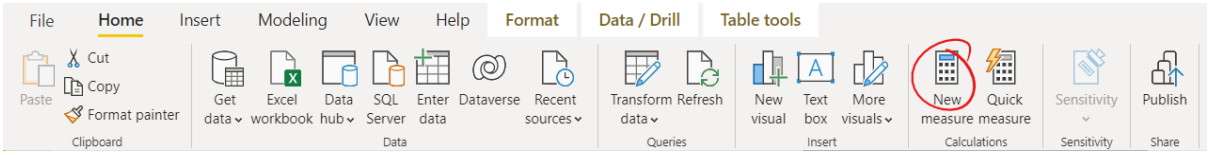
The Analyze feature provides you with additional analysis that is generated by Power BI for a selected data point. You might want to use this feature to determine if Power BI has found something that you haven't seen before, or if you want Power BI to give you a different insight into your data. This feature is particularly useful for analyzing why your data distribution looks the way that it does.

13) Add a clustered column chart.
14) Drop “Sub-Category” on X-axis and “Sales” on Y-axis.
15) Right-click the visual and select “Analyze”->”Find where distribution is different”
16) Scroll to “Market” and click the plus icon (⊕) to add it to the page.



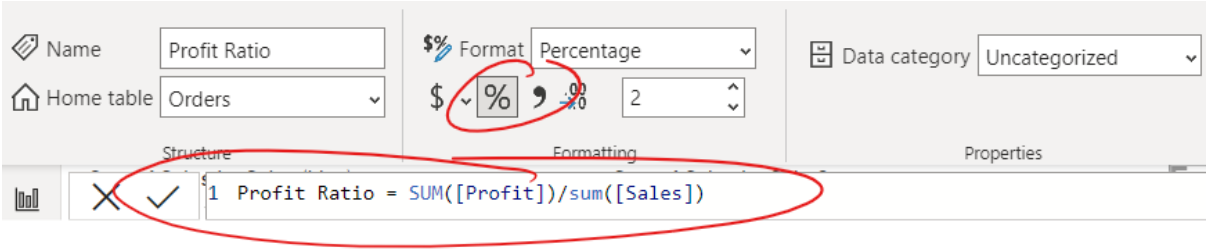
Create your own fields.

17) Click on “New Measure”



18) Enter the formula “`Profit Ratio = SUM([Profit])/sum([Sales])`”

19) Select the “Percentage” format.

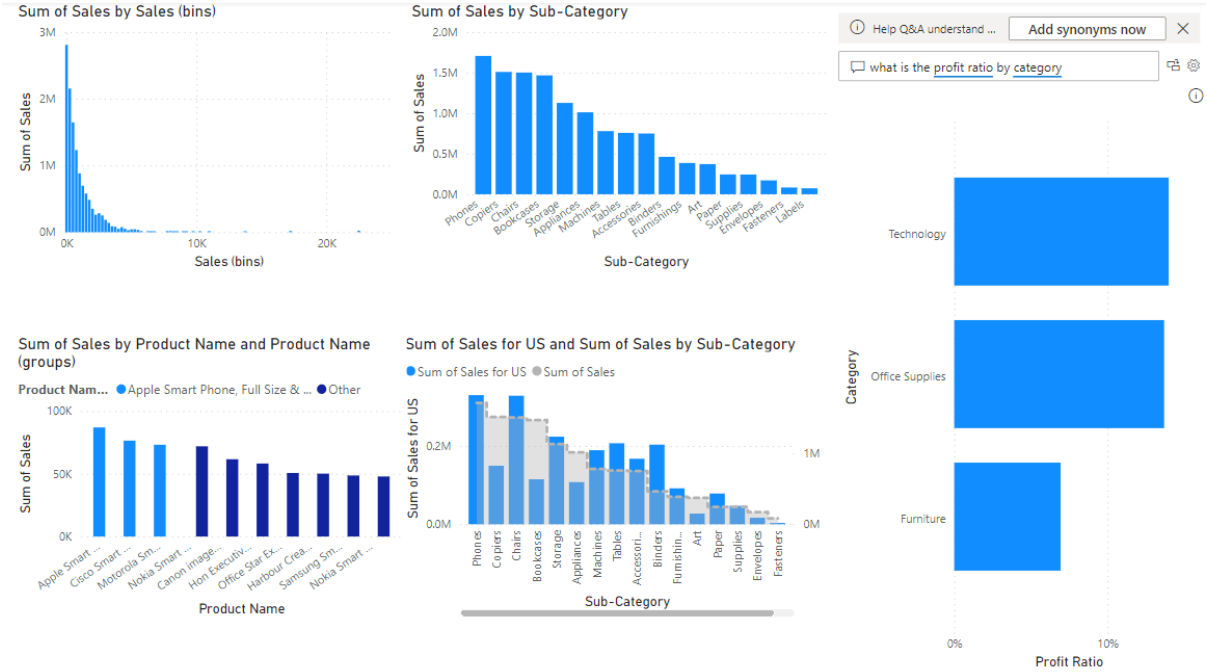


We now have a new field that we can use in our analysis. We’ll use it in a “Q&A” visual.

20) Add a Q&A visual ( )

21) Enter a question, e.g. “what is the profit ratio by category).

Power BI will automatically select the most suitable visualisation to answer your query.



Task 5: Use R visuals

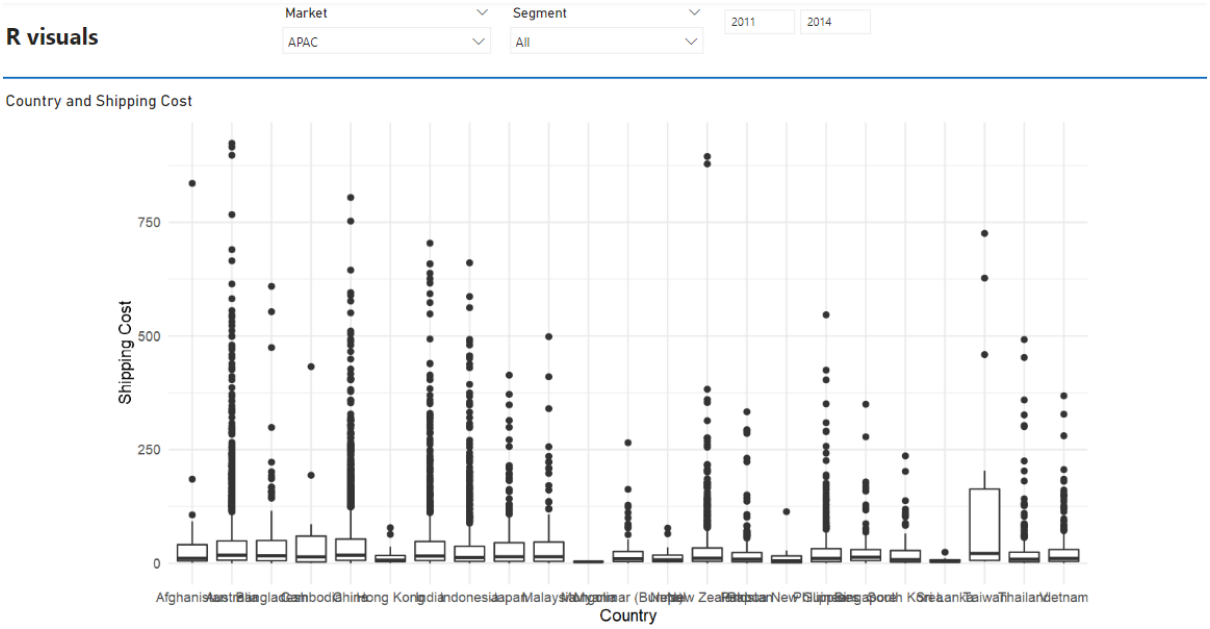
While Power BI offers powerful visualisations, sometimes, R can produce better suited visualisations. In this step, we’ll add an R visual.

R needs to be installed locally and the package ggplot2 needs to be installed.

1) Add a new page, call it “R visuals”.
2) Add the same slicers as in Step 3.
3) Add an R visual (R).
4) Add the fields “Country” and “Shipping Cost” to Values.
5) Make sure “Shipping Cost” is not summarised.

6) Paste the following code in the R script editor:

```
library(ggplot2)
ggplot(dataset) + aes(Country, `Shipping Cost`) + geom_boxplot() +
theme_minimal()
```



Note that we use backticks (`) around Shipping Cost, not single quotes.

Task 6: Create your own dashboard

1) Add a new page.
2) Think of questions regarding shipping cost (e.g. which countries have higher shipping costs? What are the average shipping cost for various shipping modes?). Come up with your own questions.
3) Build your visuals to answer these questions.

4) Whenever you find an interesting insight, try to dig deeper and find out more.