DIAD Power BI Desktop Demo Instructions

Prerequisites

The following prerequisites and setup must be done for successful completion of this demonstration:

- Download a copy of the demonstration assets to your local computer.
- Copy all the contents from the student content folder, **Dashboard in a Day Assets**, to C:\DIAD.
- Install the Power BI Desktop.

Pre-Demo

1. Open the **DIAD Final Report.pbix** file.
2. Open the **bi_dimensions.xlsx** Excel spreadsheet.
3. Open the **Canada.csv** data file.
4. Login to https://app.powerbi.com.
5. Create a new workspace named **DIAD.**
6. Create additional workspace named **DIAD2**
7. Publish the **DIAD Final Report.pbix** to the workspace.
8. Follow the steps in the lab to create the **VanArsdel dashboard** (it's the Power BI Service section of HOL).
9. Create the **DIAD app**.
10. Turn on **Smart Narrative Visual** and **Data Point Rectangle Select** in Preview Features. Options -> Preview Features

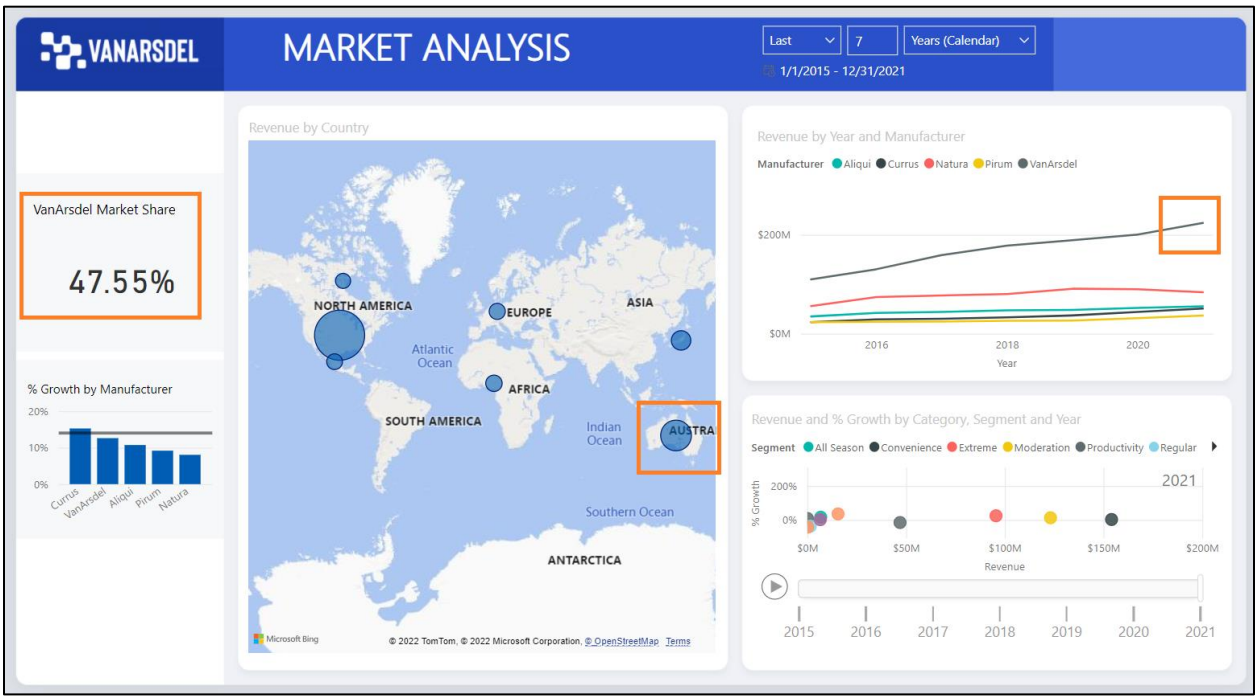
Power BI Demo

First, talk about the Dataset:

> VanArsdel manufactures expensive electronic products that could be used for fun as well as work. They sell the products directly to consumers nationwide in the USA and several other countries.
>
> VanArsdel and its competitors have retained a third-party marketing company to collect and anonymize industry sales so that all participants can benchmark themselves.

In this demonstration, we are going to compare VanArsdel's performance with that of their competitors and in the process, determine if there is a specific scenario that stands out. Based on this information, executives can make decisions.

1. Login to https://app.powerbi.com impersonating an end-user, then launch the **DIAD** app.
2. Navigate to the **Market Share** page of the **DIAD Final Report**.
3. Using the line chart, talk about the fact that VanArsdel has a large market share compared to other manufacturers. Also notice that the sales are increasing YoY.
4. Notice that the USA has the largest sales. Select the **USA** bubble in the map visual.
5. Notice that **VanArsdel Market Share** in the USA is 43%.
6. Now select other countries like Canada or Japan and notice the **VanArsdel Market Share**.
7. Select the **Germany** bubble and observe that the **VanArsdel Market Share** is 64%. Also see the line chart that growth is steady.
8. Select the **Australia** bubble and notice that the **VanArsdel Market Share** is 55% and in the line chart there is a large spike in 2021.

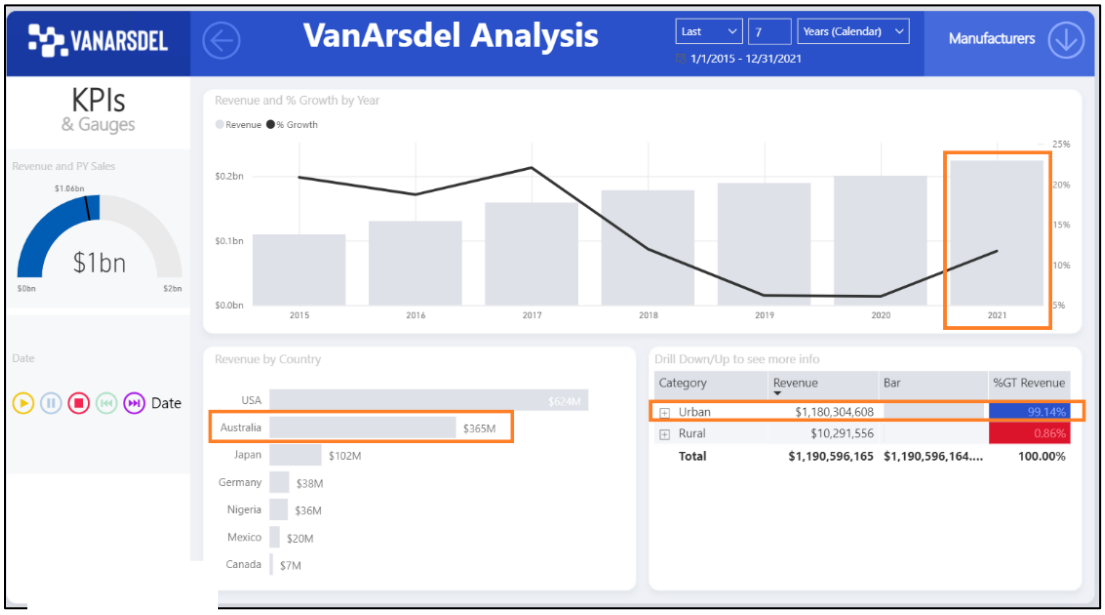


Let's investigate further and navigate to the **By Manufacturer** page.

1. Use the **Manufacturer** slicer to filter the results to **VanArsdel**.

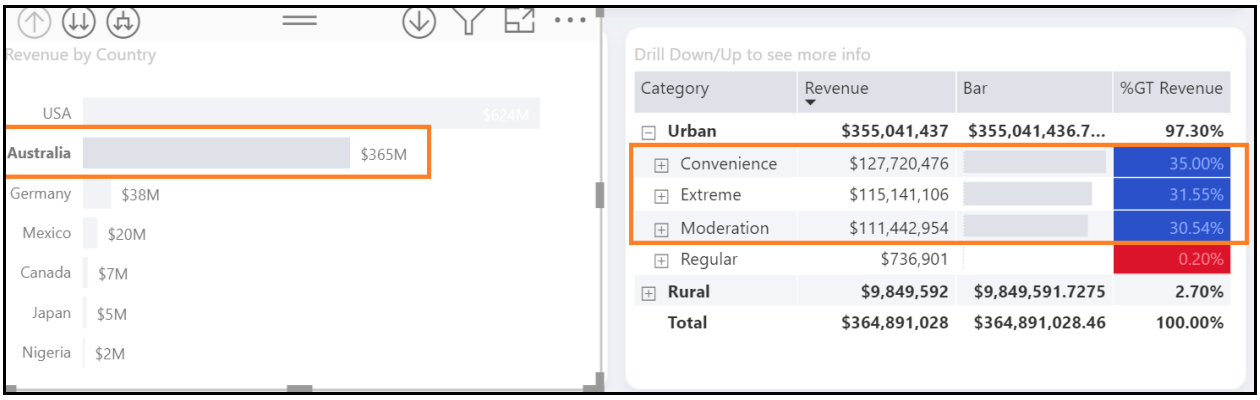
2. Select **USA** in the **Revenue by Country** visual.
3. Notice sales have increased marginally in 2021 and the **Urban** category is 99% of the revenue.
4. Select **Australia** in the **Revenue by Country** visual.

5. Notice sales have spiked in 2021 and the **Urban** category is 97% of the revenue.
6. Similarly, select **Japan** and observe the **Urban** category is 99% of the revenue.



Let's drill down into the **Urban** category to investigate further.

1. Select **USA** in the **Revenue by Country** visual.
2. Notice **Convenience** is the biggest segment followed by the **Moderation** and **Extreme** segments.
3. Select **Japan** in the **Revenue by Country** visual.
4. Notice **Convenience** is the biggest segment followed by the **Moderation** and **Extreme** segments.
5. Select **Australia** in the **Revenue by Country** visual.
6. Notice that **sales** in the **Convenience**, **Moderation** and **Extreme** segments are roughly 30%.

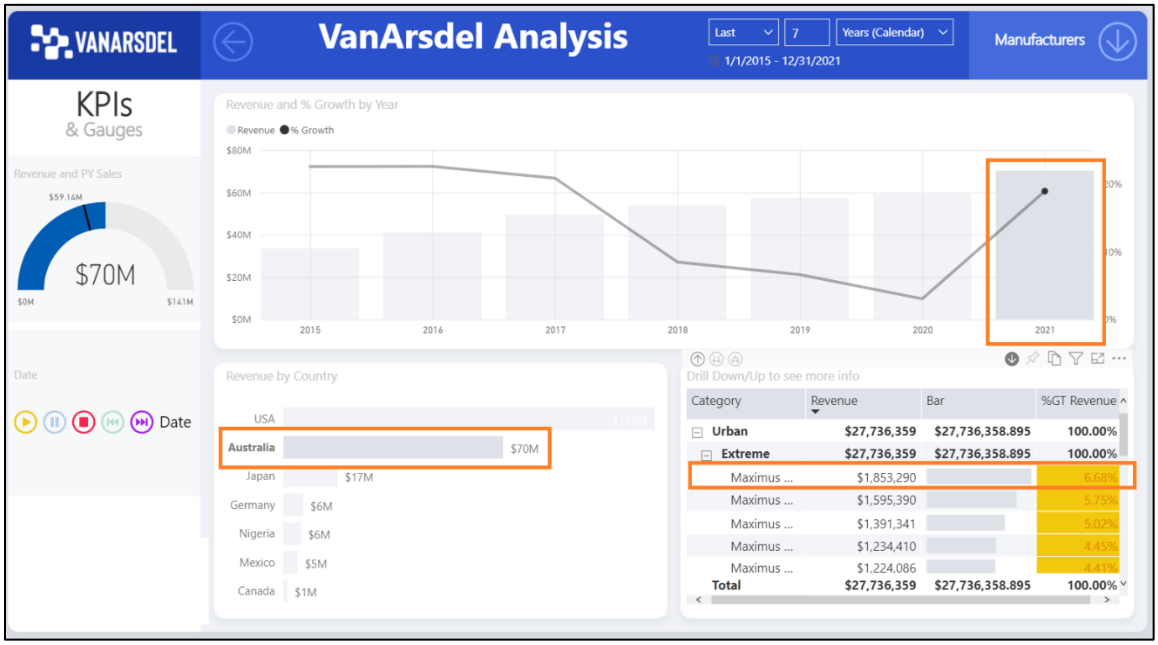


Let's investigate this further and determine why **Sales** in **Australia** is out of the norm.

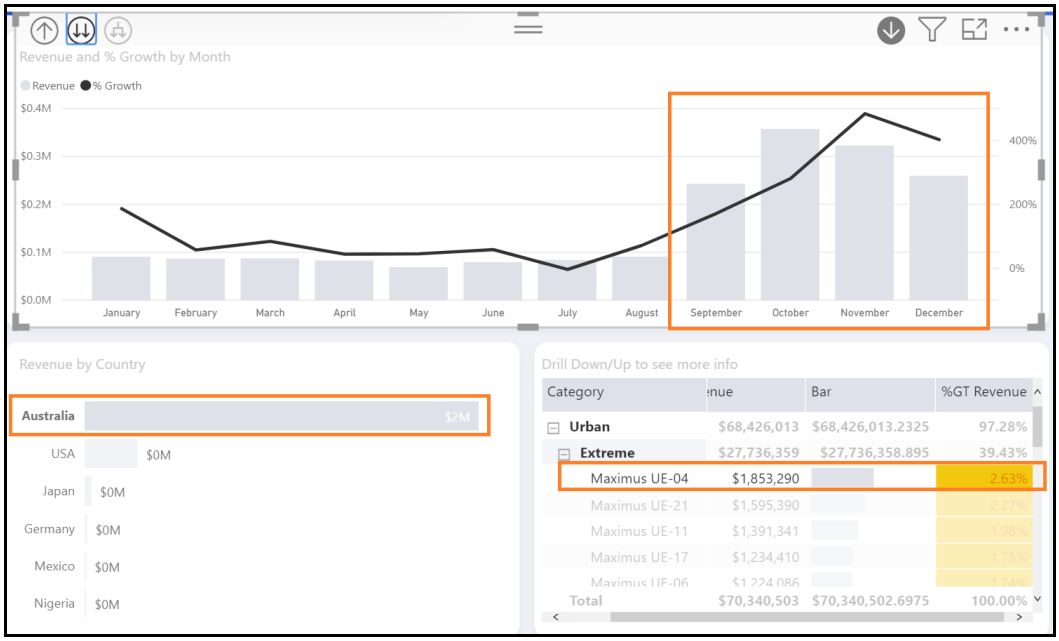
1. Make sure **Australia** is selected in the **Revenue by Country** visual.
2. Press the **Ctrl** key and then select **2019** from **Revenue** and **%Growth by Year** in the visual.
3. Notice that there is no major change in the **sales by Product** segment.
4. Press the **Ctrl** key, uncheck **2019** and then select **2020**.
5. Notice that there is no major change in the **sales by Product** segment.
6. Press the **Ctrl** key, uncheck **2020** and then select **2021**.
7. Here, notice there is a spike in the sales of the **Extreme** segment in 2021.

Let's drill down to **Product** level and check if anything interesting is happening.

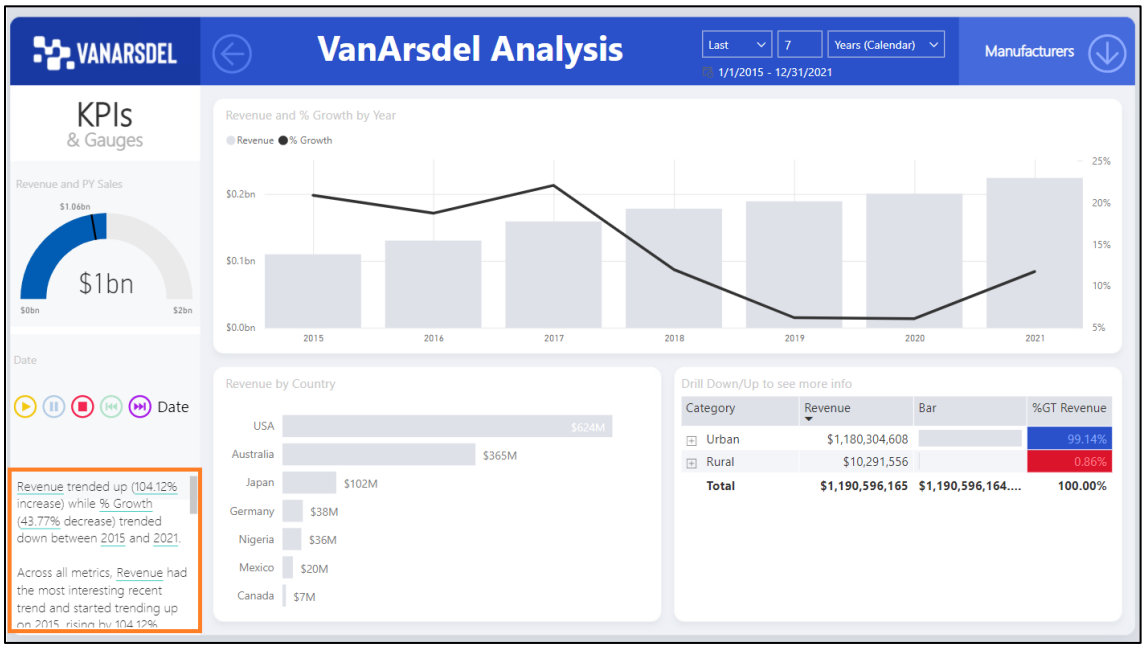
1. Drill-down into the **Extreme** segment in the matrix.
2. With **Australia** selected in the **Revenue by Country** visual, select **Maximus UE-04**. Notice there is a spike in 2021.
3. And there is a spike for the **Top 5 products**.



4. Make sure **Australia** is selected in the **Revenue by Country** visual.
5. Drill-down in 2021 to the **month** level for investigation.
6. Notice there is a spike in the last 4 months of 2021.
7. Use rectangle-select to select the last 4 months. Hold down Ctrl and drag a rectangle around the last 4 months to filter the report for those months. (Reminder to turn on in Features)
    - Explain how rectangle select works for the user
8. Remove the rectangle select by clicking off the report.
9. Select **Maximus UE-04** in the matrix visual and notice the spike is in last 4 months and **% Growth** is positive as well.
10. The trend is similar for **Maximus UE-21**. This is good.



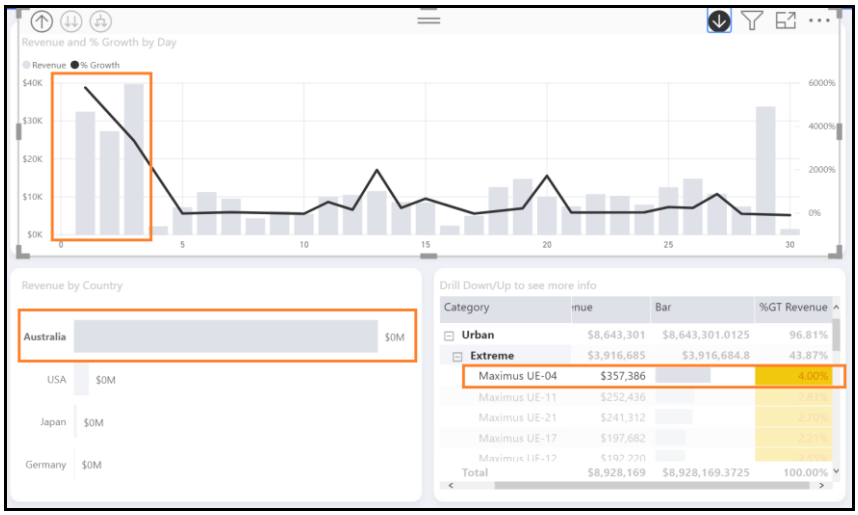
11. Let's add a Smart Narrative chart to learn more (Reminder to turn it on in Features)
12. Delete the Initial State button to make room for the Smart Narrative
13. Add the **Smart Narrative** chart, explain how this tool works



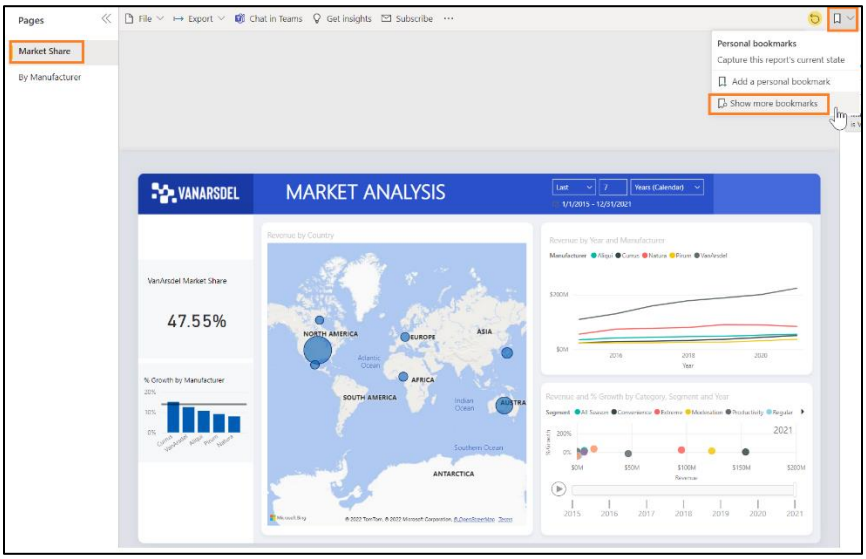
Let's drill-down to the **day** level and check to see if the spikes were on specific days.

1. Make sure **Australia** is selected in the **Revenue by Country** visual.

2. Make sure **Maximus UE-04** is selected in the **matrix** visual.
3. Drill-down to **September 2021** in the **day** level.
4. Notice that there is a spike the last couple of days of September.
5. Drill-down to **October** and notice there is a spike the first few days and then it holds steady. Something happened end of September and early October to cause the spike

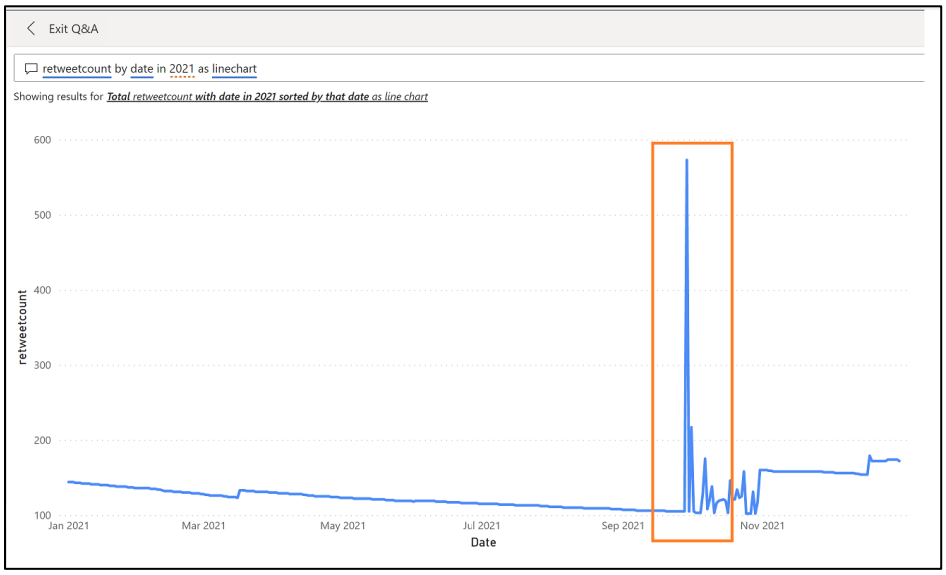


6. From the menu, select **View** and then the **Enable Bookmarks** pane.
7. Notice **Bookmarks** have been created for the story we just discovered. Discuss about the ability to create bookmarks and how they can be used for presentations or to highlight insights.
8. Enable **Fullscreen** mode and navigate through a few bookmarks in presentation mode.



Let's see if there is anything that can help us understand the reason behind this spike. We have captured Twitter data for VanArsdel. Let's use this data to investigate if there was any social activity that triggered the spike in sales in September and October.

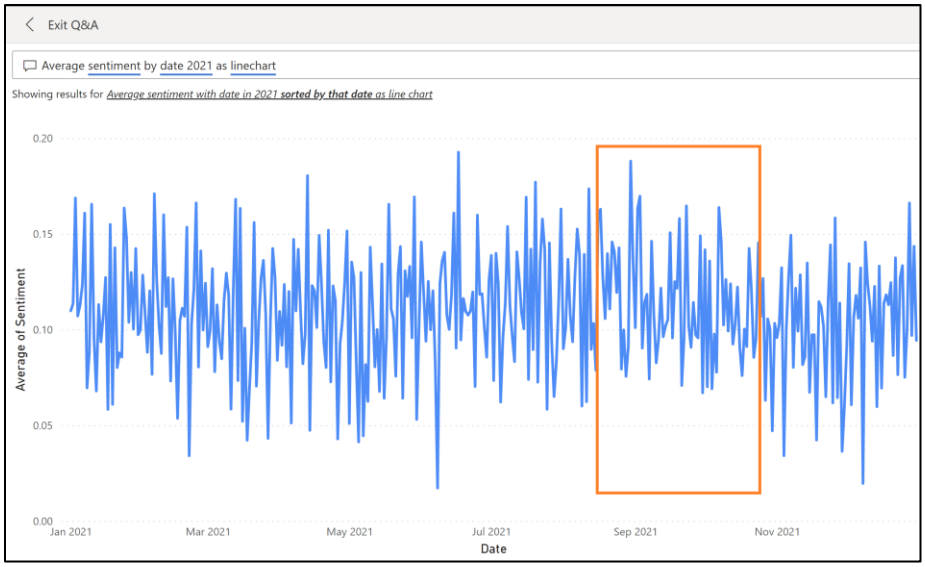
1. Navigate to **VanArsdel** dashboard.
2. In the **Q&A** text box type **retweetcount by date**. Notice a line chart is created and there is a spike in retweets during our previously observed spike period.
    - Note – **Q&A** can now do basic arithmetic
3. Let's focus in on 2021. Continue by typing **retweetcount by date in 2021**. This creates a bar chart.
4. Continue by typing **retweetcount by date in 2021 as line chart**.



There is a noticeable spike during the end of September and early October. There may be a correlation. Let's analyze the sentiment of these tweets.

5. In the **Q&A** box, type **Average sentiment**. Notice that it's 0.11.
6. Continue by typing **Average sentiment by date 2021 as line chart**.

Notice the sentiment score in September and October of 2021 is around the average of 0.11. That doesn't help much.

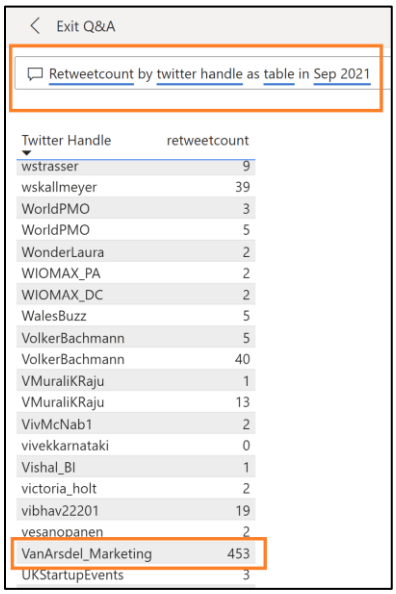


Let's look at the data by twitter handle.

7. This time in the **Q&A** box, type **Retweetcount by twitter handle as table in Sep 2021**.
8. Sort the results by the **Twitter handle** column.

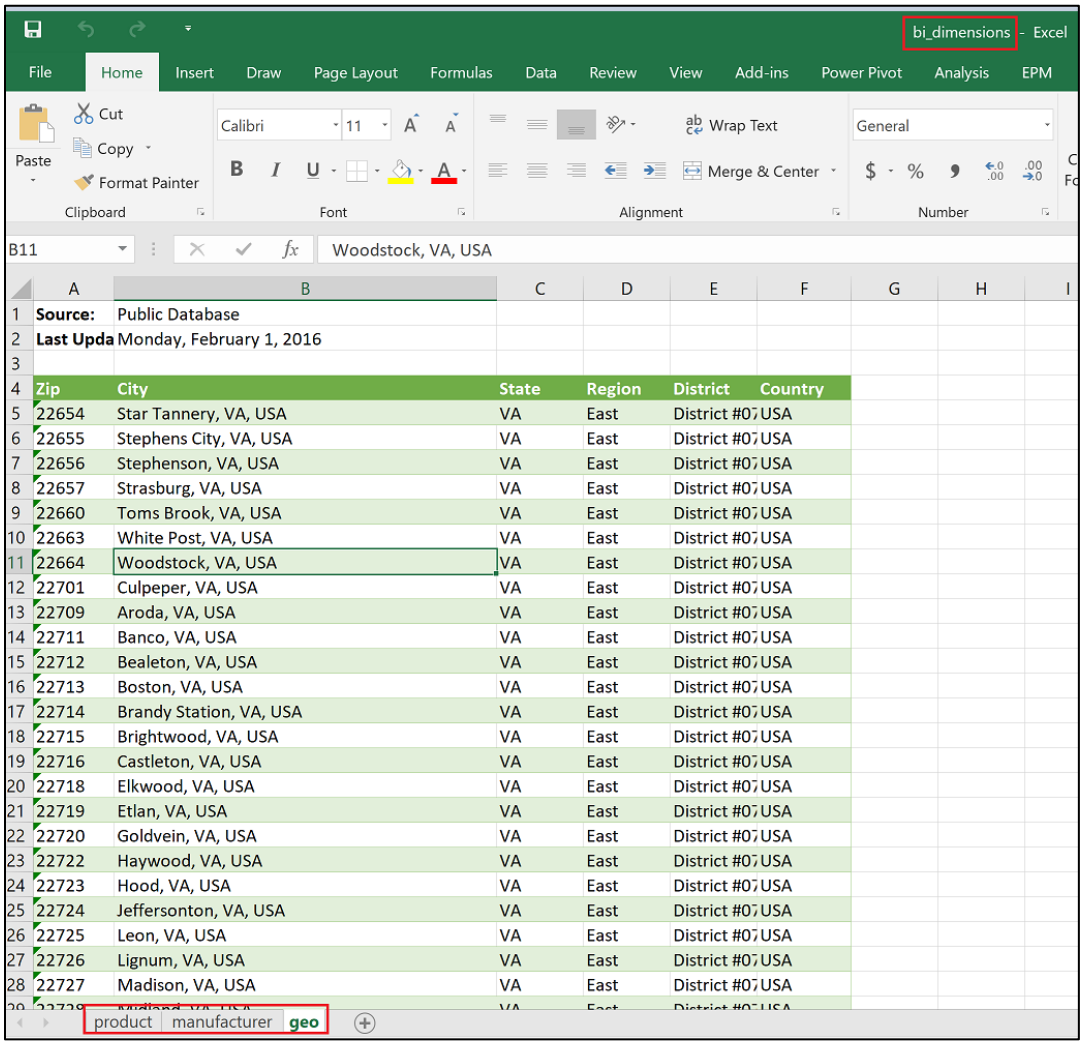
Notice there are many tweets from a single twitter handle. This handle belongs to the marketing department of VanArsdel. We have found the cause for the spike. The social initiative by the marketing department leads to a spike in sales.

We have found the reason for the spike in sales. This information can be shared with other countries and regions where a similar social initiative may boost sales.



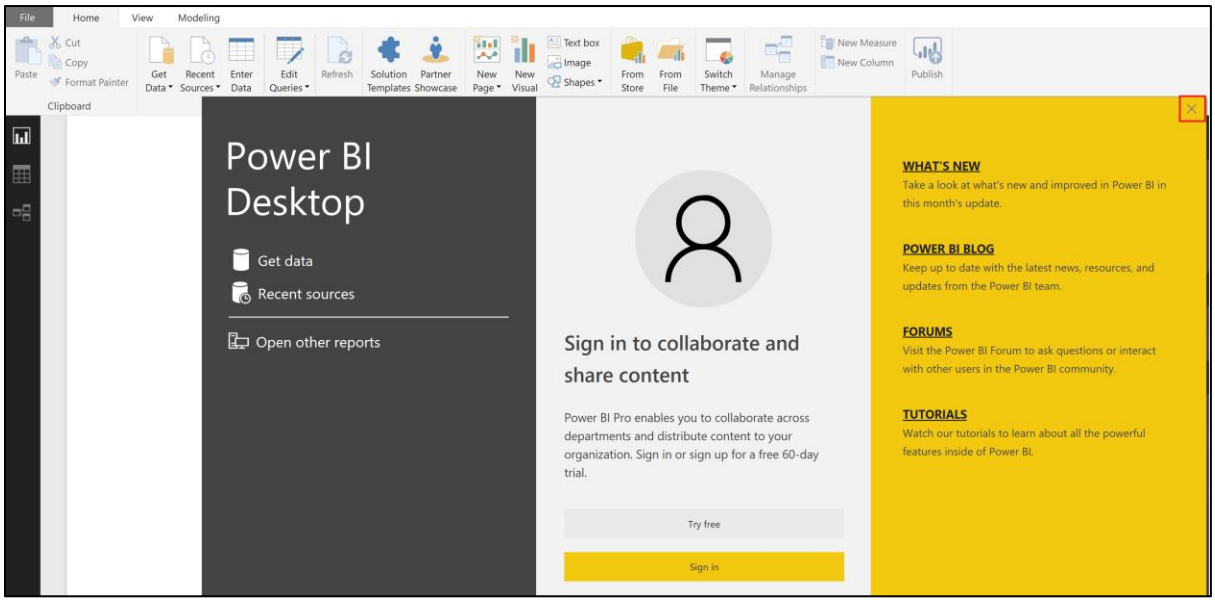
Pre-Lab Pointers

1. Navigate to the **bi_dimensions.xlsx** spreadsheet (opened in Step 2).
2. Walkthrough each of the sheets and talk about the dimension data, layout, and challenges to consume this data.
3. Navigate to **Canada.csv** window (opened in Step 3).
4. Talk about the sales data.
5. The **Product**, **Geography**, **Date**, **Manufacturer**, and **Sentiment** data is available in bi_dimensions.xlsx (in folder DIAD\Data\USSales).
6. Sales data for the USA is available in **bi_salesFact.xlsx** (in folder DIAD\Data\USSales).
7. Sales data for other countries is available in folder **DIAD\Data\InternationalSales**.
8. Data from these sources need to be brought together for analysis and reporting.



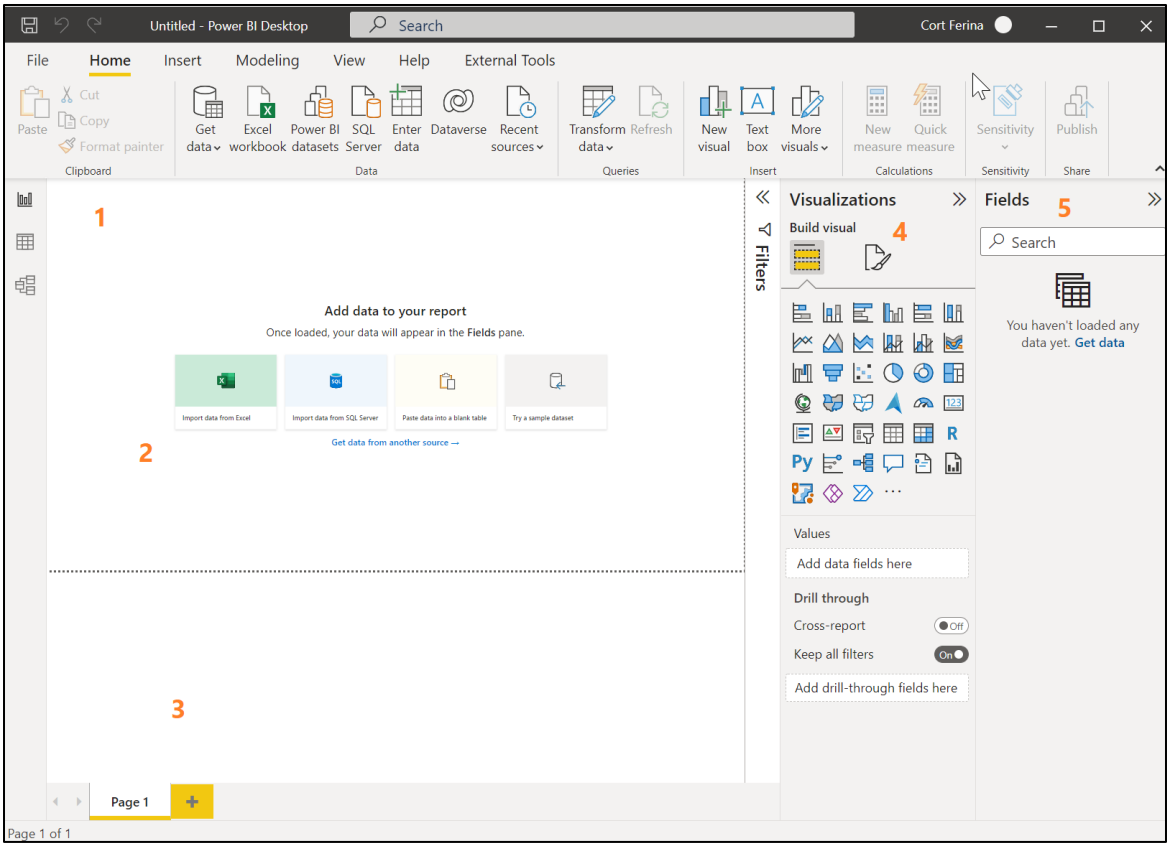
Power BI Desktop

1. Launch a new instance of Power BI Desktop.
2. The Power BI Desktop opens to the **startup** screen.
3. Close the **startup** screen by clicking on the "x" on the top right corner.
4. The Power BI Desktop is now open and available.



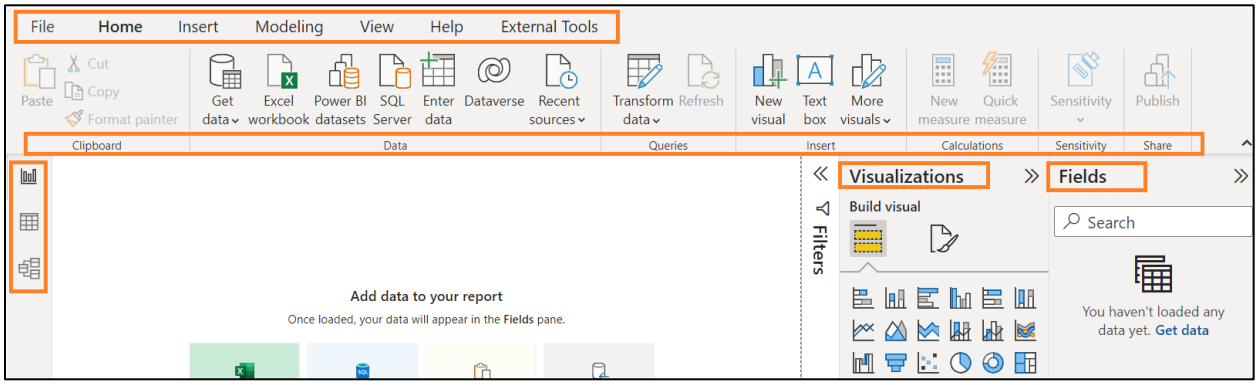
The **Report** view has five main areas:

1. The **ribbon**, which displays common tasks associated with reports and visualizations.
2. The **Report** view, or canvas, where visualizations are created and arranged.
3. The **Pages** tab area along the bottom, which lets you select or add a report page.
4. The **Visualizations** pane, where you can change visualizations, customize colors or axes, apply filters, drag fields, and more.
5. The **Fields** pane, where query elements and filters can be dragged onto the **Report** view or dragged to the **Filters** area of the **Visualizations** pane.



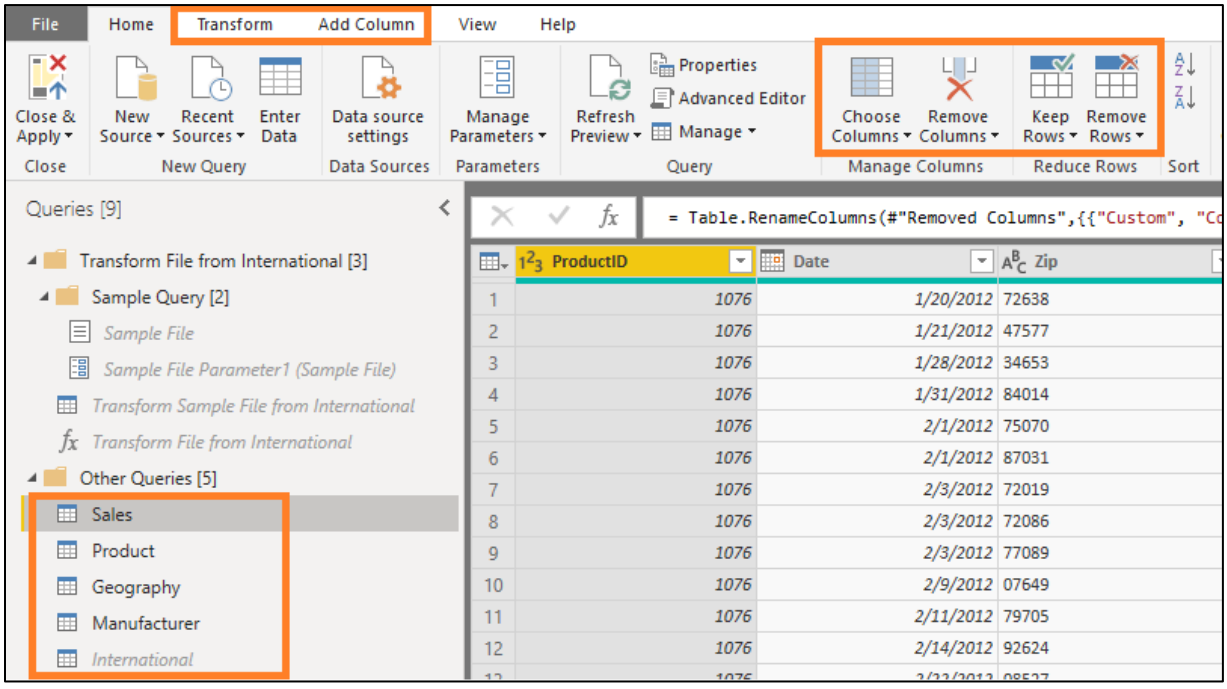
6. Notice in the **Home** ribbon the following sections:
    a. **Clipboard –** Includes actions cut, copy and paste
    b. **External Data**: This section is equivalent to Power Query for Excel. It is used to connect to various data sources and transform data.
    c. **Insert**: This section is used to add elements in the report.
    d. **Custom Visuals**: This section is used to import custom visuals.
    e. **Themes**: This section is used to import themes.
    f. **Relationships**: This section is used to create or edit relationships in the data model.
    g. **Calculations**: This section is used to create or edit measures and calculated columns. It's like Power Pivot for Excel.
    h. **Share**: This section is used to **Publish** the data model to the Power BI service.
7. Notice on the left panel, there are reports, data, and model sections. These views provide the capability to view data and relationships between tables.
8. The center panel is the canvas used to create visuals or view data.
9. The right panel is used to add or edit report elements.
10. The **View** section on the ribbon is used to customize the **Page** view.
11. Also notice the **Modeling** ribbon option provides options to **Add Columns**, **Add Measures**, and other modeling options.
12. The **Help** section in the ribbon has useful resources.

13. Select the **Home** ribbon, click **Get Data**, and then click **More**. Talk about the variety of sources that are supported:
    - File
    - Database
    - Power BI
    - Azure
    - Online Services
    - Other



13. Notice in the **Home** ribbon the following sections:
    - **Clipboard –** Contains actions cut, copy and paste
    - **Data**: This section is equivalent to Power Query for Excel. It is used to connect to various data sources and transform data.
    - **Queries** – This section is used to transform data in Power Query
    - **Insert:** This section is used to create elements in the report.
    - **Calculations**: This section is used to create or edit measures and calculated columns. It's like Power Pivot for Excel.
    - **Sensitivity –** Use this section for sensitivity labels
    - **Share**: This section is used to **Publish** the data model to the Power BI service.
14. Notice on the left panel, there are **reports**, **data** and **model** sections. These views provide the capability to view data and relationships between tables.
15. The center panel is the canvas used to create visuals or view data.
16. The right panel is used to add or edit report elements.
17. The **View** ribbon is used to customize the **Page** view.
18. Also notice the **Modeling** ribbon option provides an option to **Add Columns**, **Add Measures**, and other modeling options.
19. The **Help** section in the ribbon has useful resources.
20. Switch to the **DIAD- Final Report.pbix** window (opened in Pre-Demo step 1).

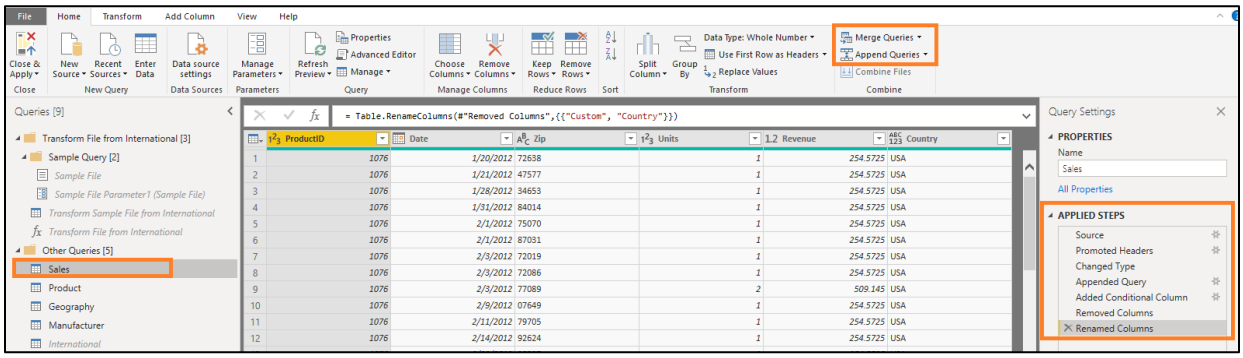
21. Click **Home** and then click **Edit Queries** to open the **Query Editor**.
22. Five queries are created from the one workbook, a csv file, and a folder data source.
23. There are data preparation and transformation options. Talk about the following options:
    - Add/Delete Columns and Rows
    - Change Data Type
    - Operations under Transform menu
    - Operations under Add Column menu
24. Switch to the **DIAD Final Report.pbix** window (opened in Pre-Demo step 1).
25. Click **Home** and then click **Transform Data** to open the **Query Editor**.
26. Five queries are created from one workbook, a csv file, and a folder data source.
27. There are data preparation and transformation options. Discuss the following options:
    - Add/Delete Columns and Rows
    - Change Data Type
    - Operations under Transform menu
    - Operations under Add Column menu



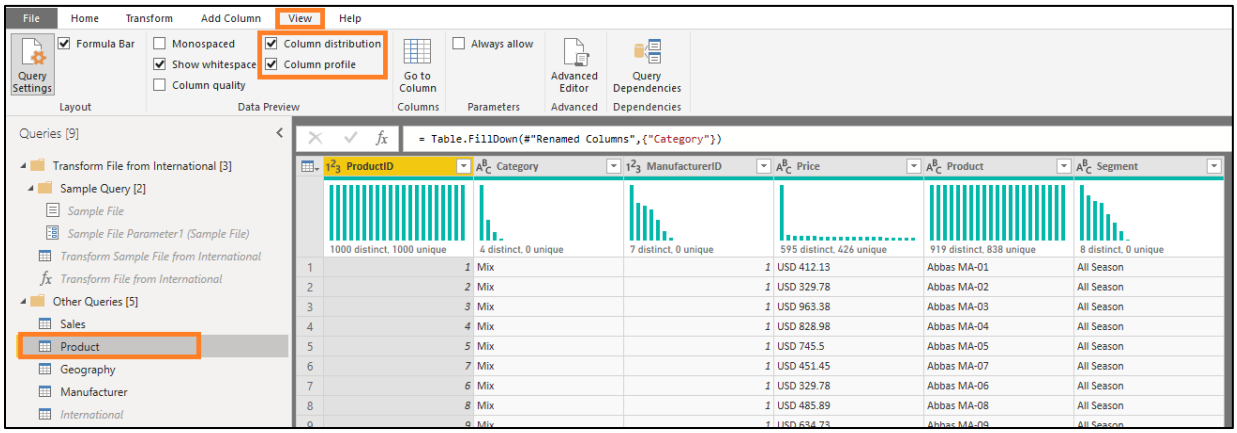
28. Select the **Sales** query.
29. Walkthrough the **APPLIED STEPS**.
30. Talk about **Append** in the **Sales** query, and the difference between **Append** and **Merge**.
31. Talk about the **Add Conditional** column.

32. Talk about **Query Dependencies**.

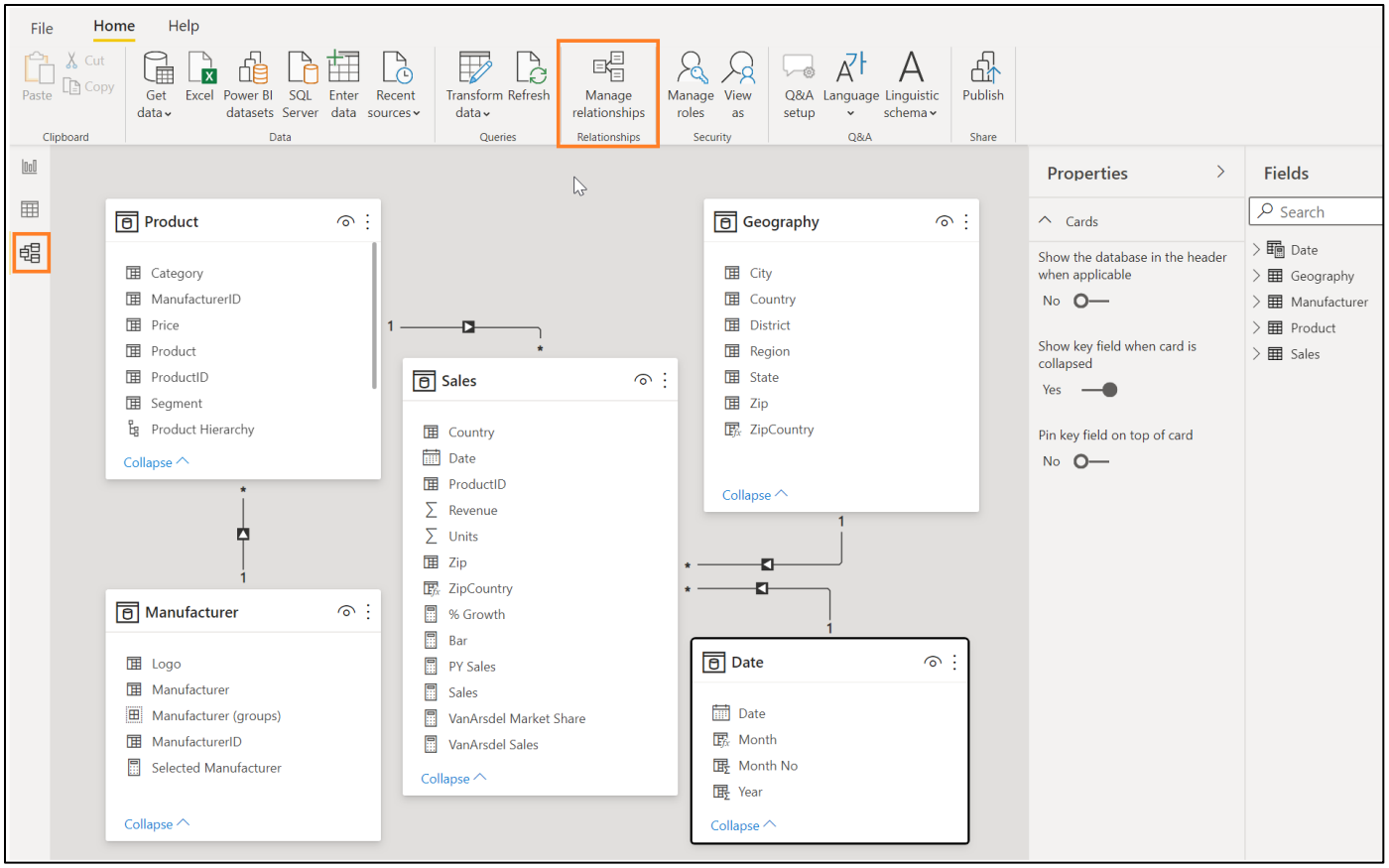
If you have time, talk about data transformations performed in the other queries.



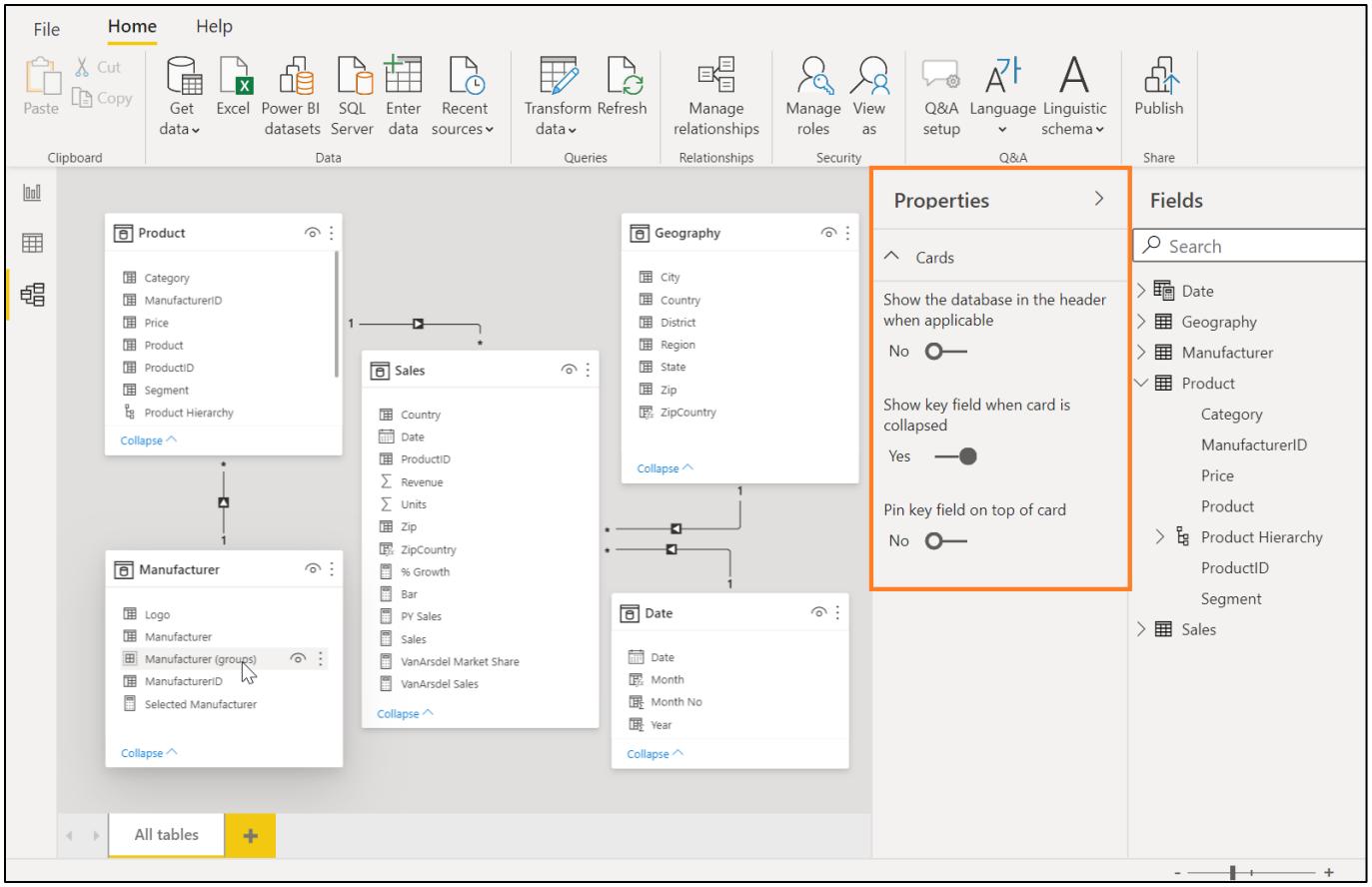
33. Select the **Product** query.
34. From the ribbon, select **View**. Talk about the **Enable column distribution** and **column profile** features.
35. Close the **Query Editor** window.



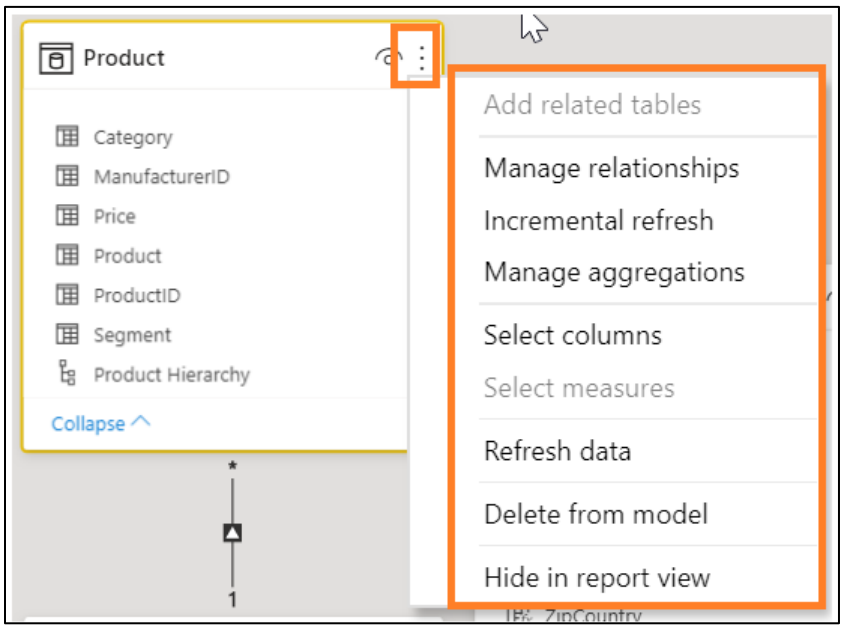
36. Navigate to the **Relationships** section.
37. Talk about the relationships that are created to connect all the queries.
38. Click **Manage Relationships** and show the dialogue.
39. Talk about the **1:1** and **1:M** relationships supported by Power BI Desktop.
40. Depending on the audience, consider discussing the **bi-direction** relationship.
41. Talk about **Synonyms**.



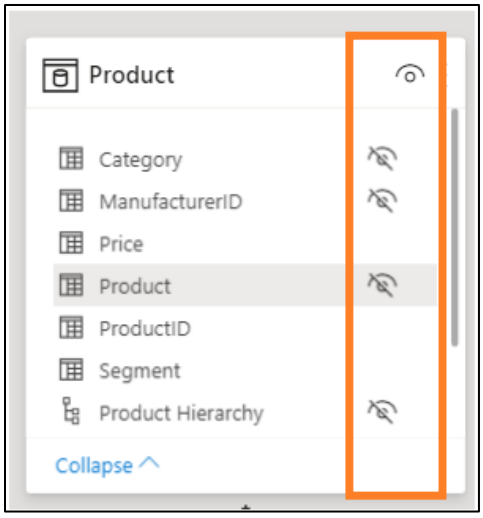
42. Talk about new field properties



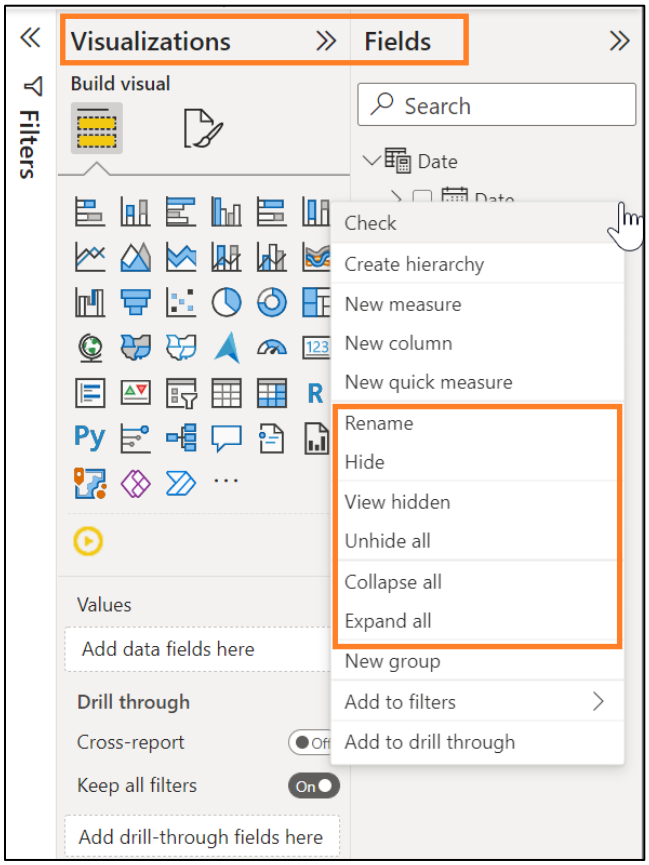
43. Discuss new table properties in model view



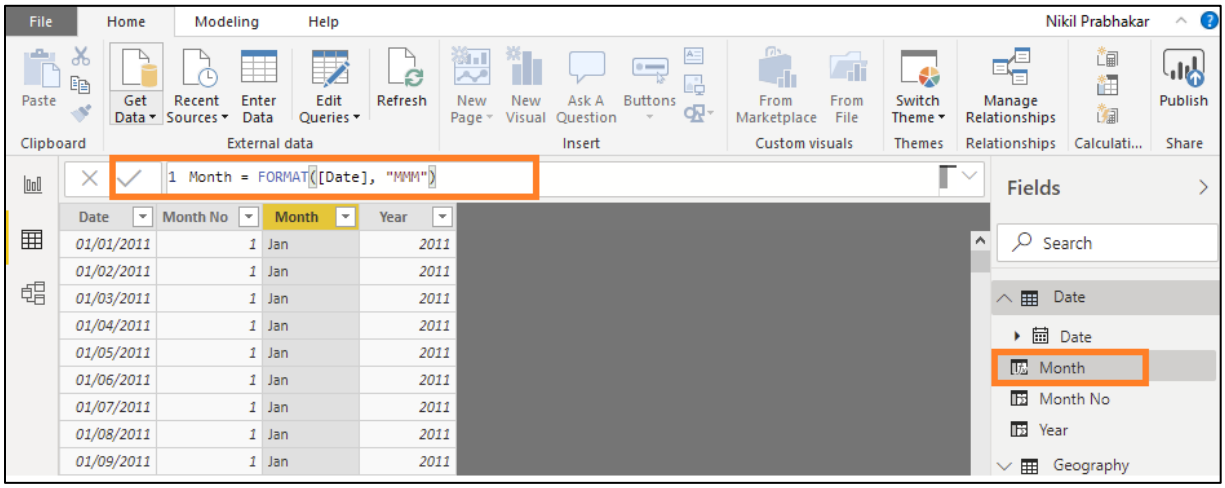
44. Talk about the ability to hide fields in the model view



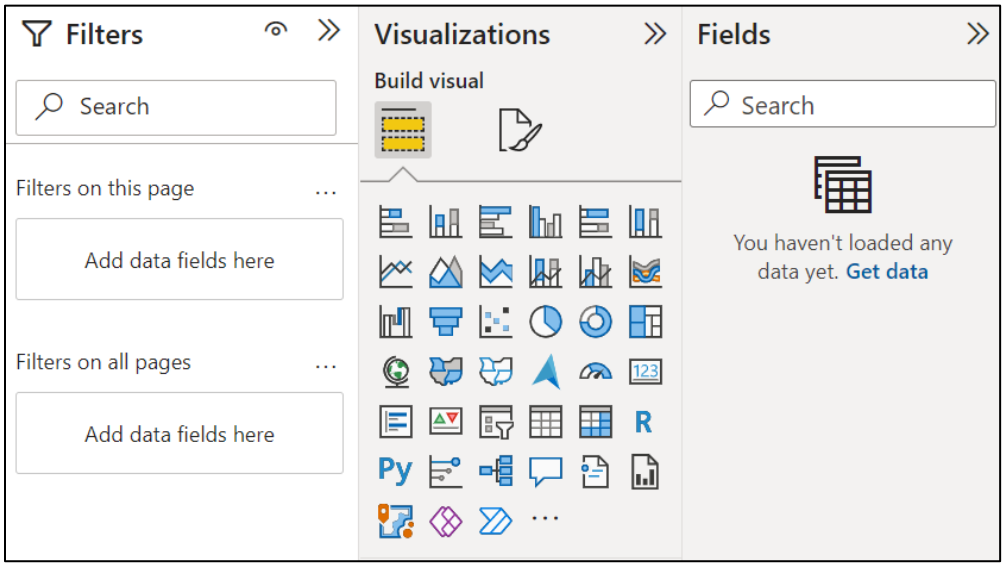
45. Navigate back to the **Reports** section.
46. Talk about the **Visualizations** and **Fields** panes.
47. Discuss the ability to **Hide** and **Unhide** fields and tables.



48. Notice we have a **Date** table which was not part of the query in Query Editor.
49. Select the **Date** table and talk about the DAX capability to create a table.
50. Navigate to each of the columns in **Date** table and talk about the **calculated column** feature.



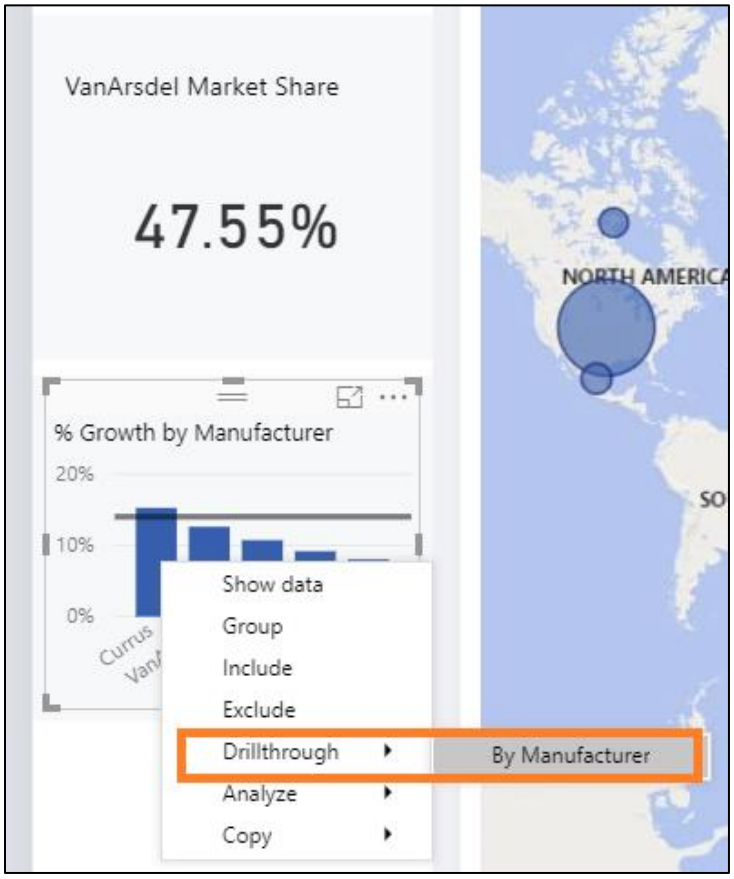
51. Talk about filtering options in the **Filters** pane:
    - Filters on this visual
    - Filters on this page
    - Filters on all pages
    - Drill through in Visualizations pane
52. In **Market Share** report page, select **Scatter chart** and explain the **Visual** level filter.



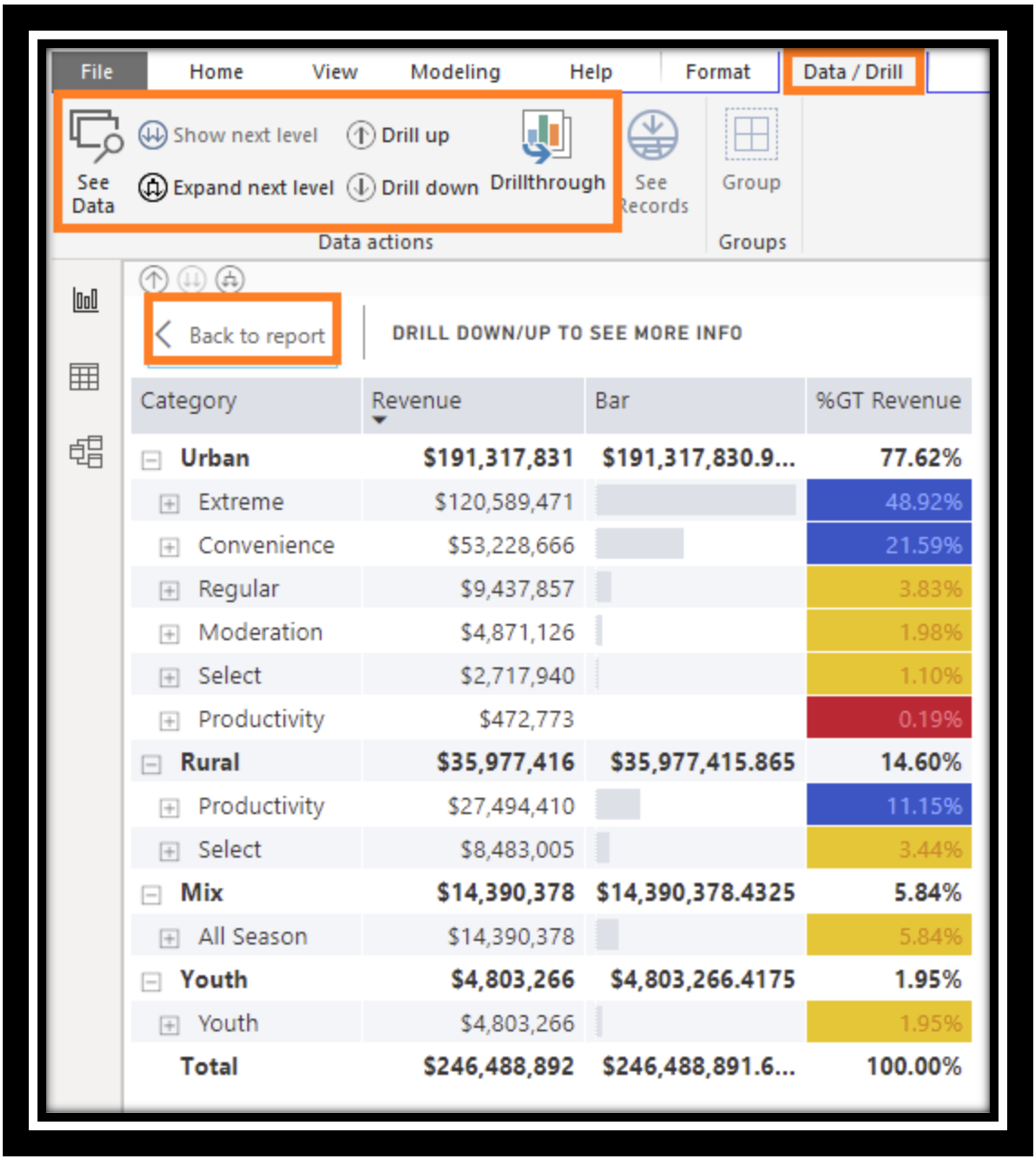
53. Navigate to the **By Manufacturer** report page.
54. Add **Manufacturer** to the **Drill through** filter section.
55. Navigate back to the **Market Share** report page.
56. Notice in the **% Growth by Manufacturer** column chart, Currus has the best growth.

Let's investigate.

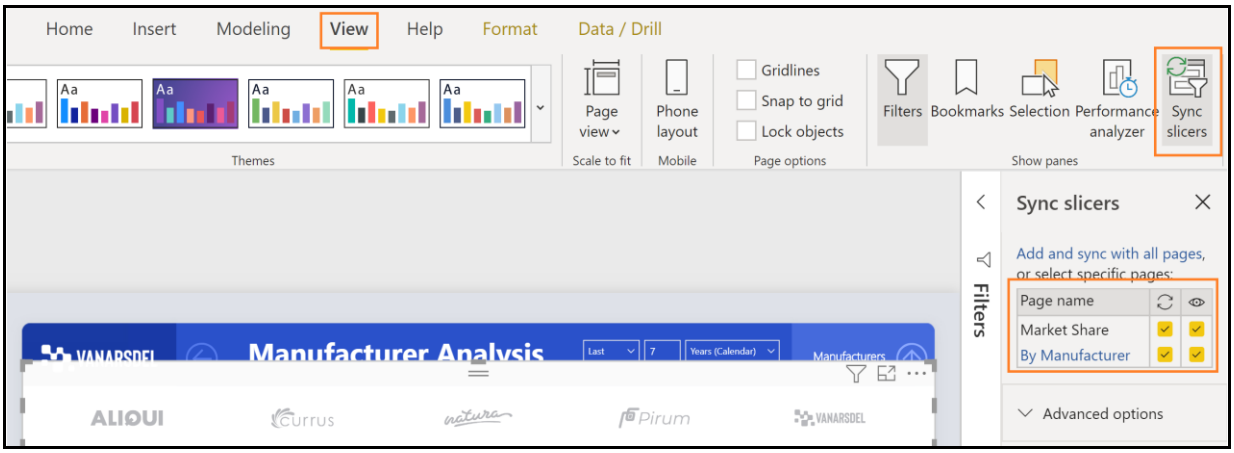
57. Right-click on the **Currus** bar, click **Drill through**, and then click **By Manufacturer** to open the **By Manufacturer** page.



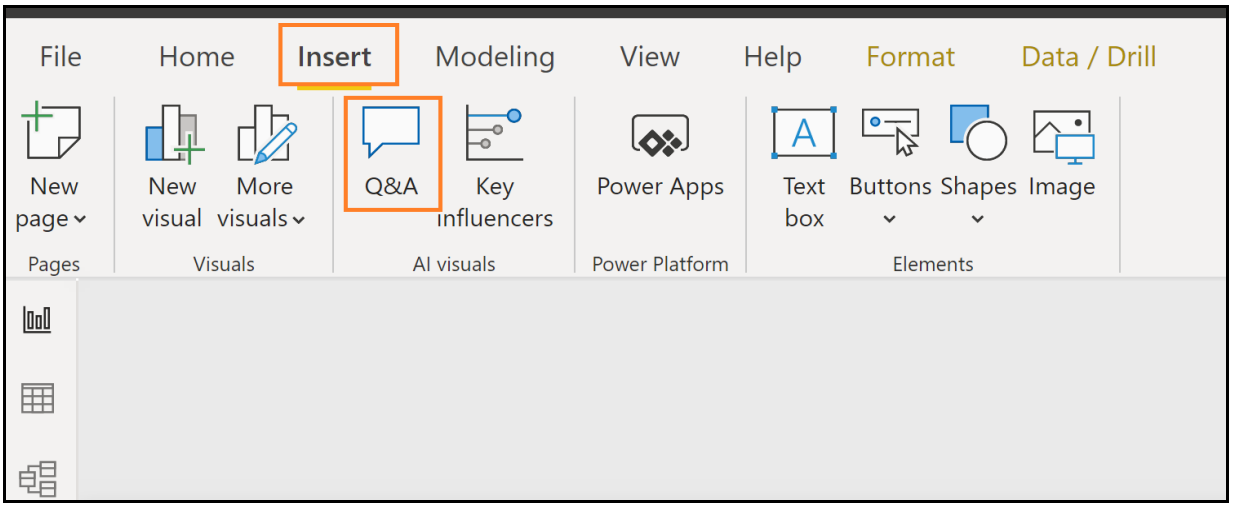
58. Use the **matrix** visual in the **By Manufacturer** page to talk about the drill up and drill down capabilities.
59. Use the **focus** mode on the **matrix** visual.
60. Talk about all the other features in the **Data/Drill** menu.
61. Notice the most growth is in the **Extreme** and **Convenience** segments.
62. Once done, click **Back to Report**.



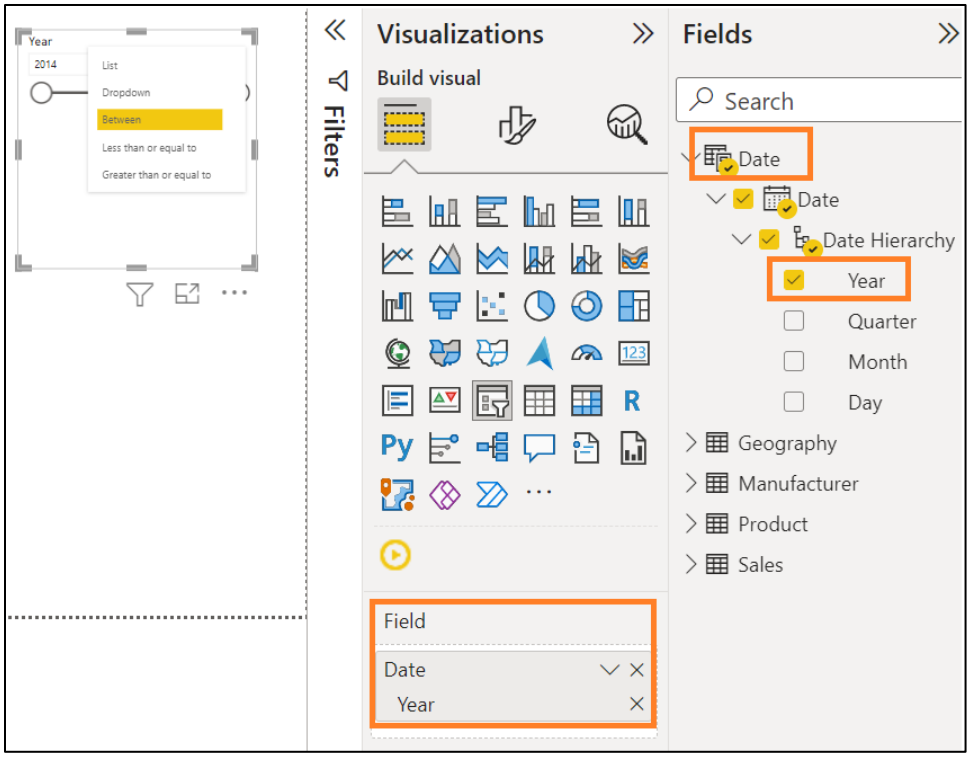
63. Add a new page to investigate Currus.
64. From the **By Manufacturer** page, copy the **Manufacturer** logo slicer.
65. Sync the slicer and then talk about the ability to **Sync** slicers.
66. Filter by Currus.



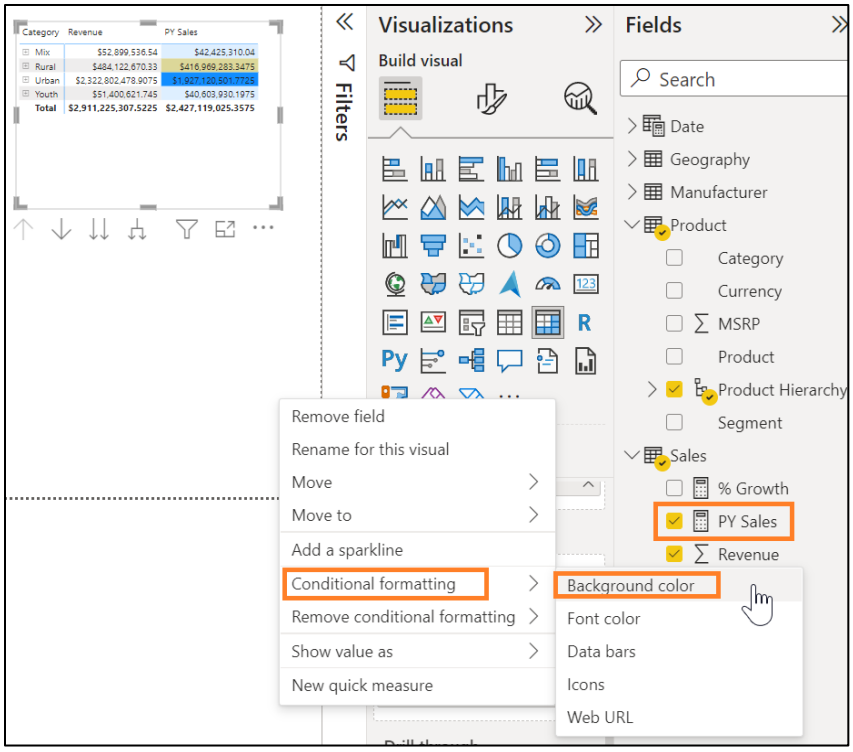
67. From the ribbon, click **Insert** and then click **Q&A**.
68. Enter **% Growth by Country**.
69. Notice Currus has a big presence in Mexico.



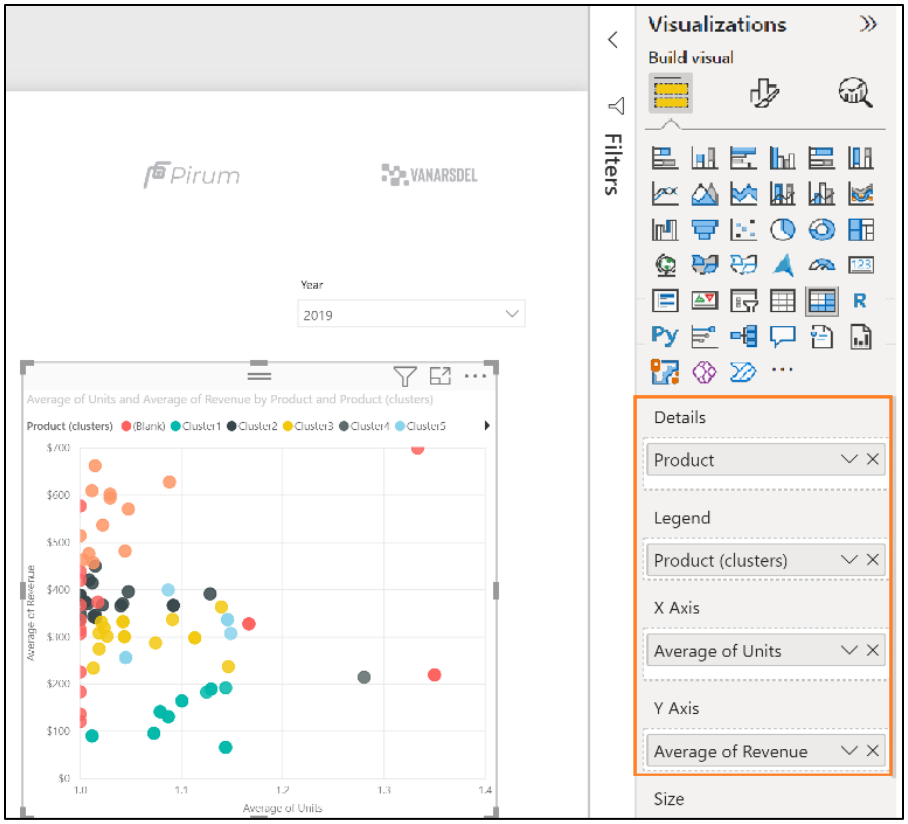
70. Create a **Year** slicer, and then talk about the various ways to format a slicer.
71. Select **2021** in the slicer. Notice that Currus had a big impact in Nigeria in 2021.



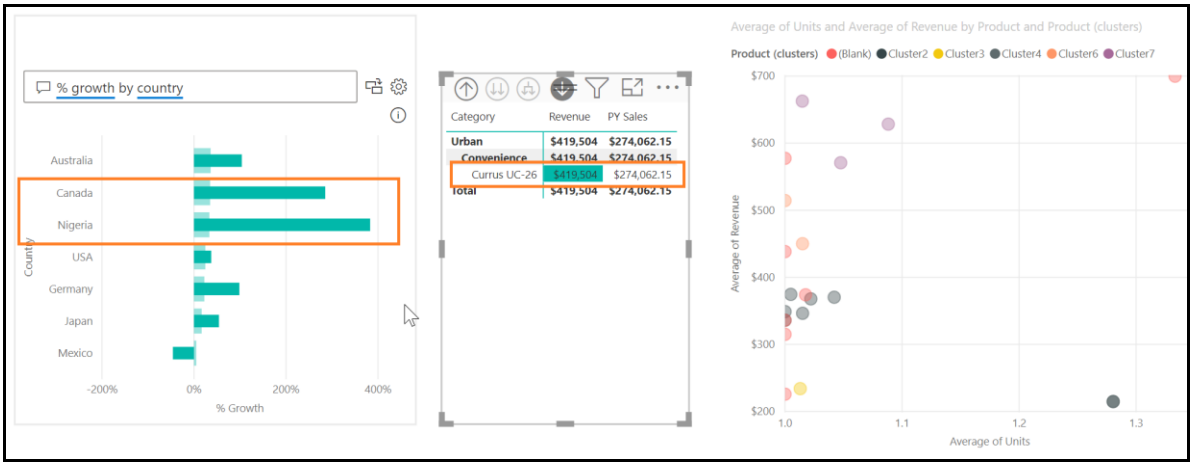
72. Create a **matrix** visual using the **Product Hierarchy** in **Rows** and **Revenue** and **PY Revenue** in the **Values** section.
73. Apply conditional formatting on **Revenue** so that Revenue is formatted based on **% Growth**. You are highlighting the capability to format based on another field.
74. Select **Nigeria** in the bar chart and notice that Currus has growth in the **Urban** and **Youth Product** categories.
75. You can investigate further by drilling down within the **Product** hierarchy.



76. From the **Visualization** section, select the **Scatter** chart visual.
77. From the **Fields** section, add **Average of Units** to the X-axis.
78. From the **Fields** section, add **Average of Revenue** to the Y-axis.
79. From the **Fields** section, add **Product** to the Details.
80. Hover over the **Scatter** chart and then click on the **ellipsis** on the top right corner.
81. Select **Automatically find clusters**.
82. The **Cluster** dialog opens. Change the number of clusters if you wish to, if not leave the default value.
83. Click **OK**.
84. Notice the **Scatter** chart is updated to show clusters using the clustering algorithm.
85. Talk about how you can use the cluster to identify outliers and patterns.



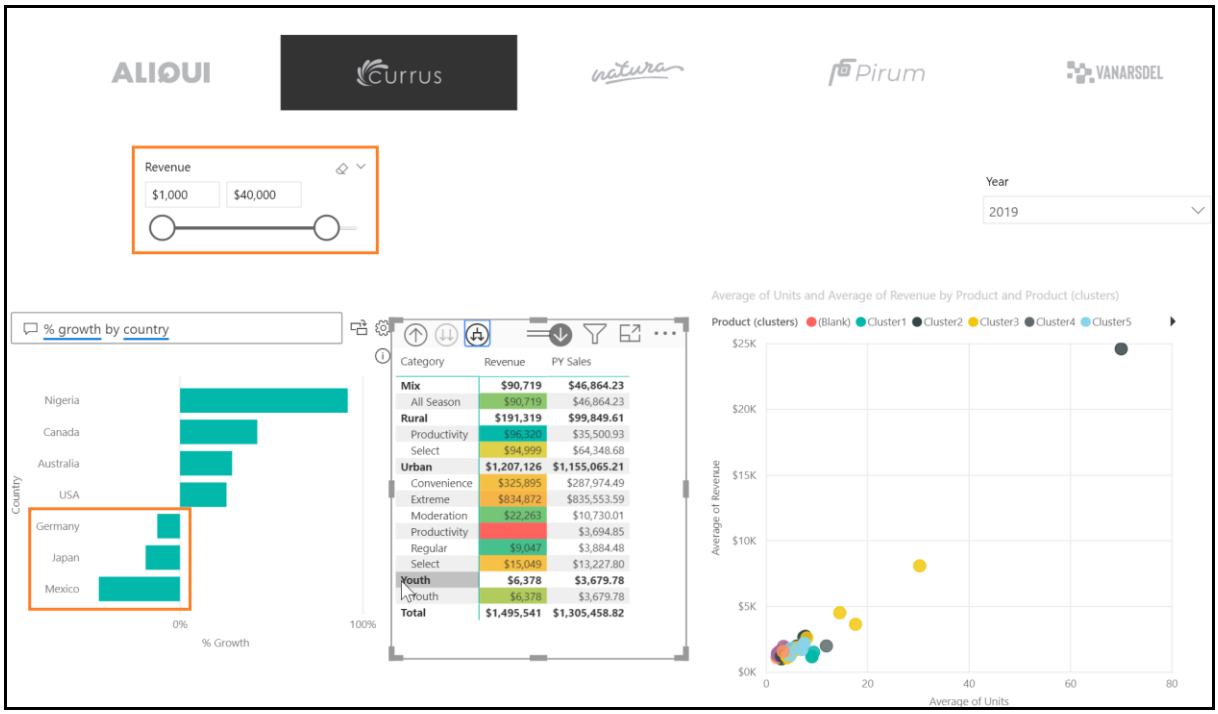
86. Select the outlier, **Cluster 7**, in the **Scatter** chart.
87. Notice that these outliers make a large amount of the revenue in Nigeria and Canada.
88. One product, **Currus UC – 26**, sells a lot in Nigeria and Canada. This is something to investigate.



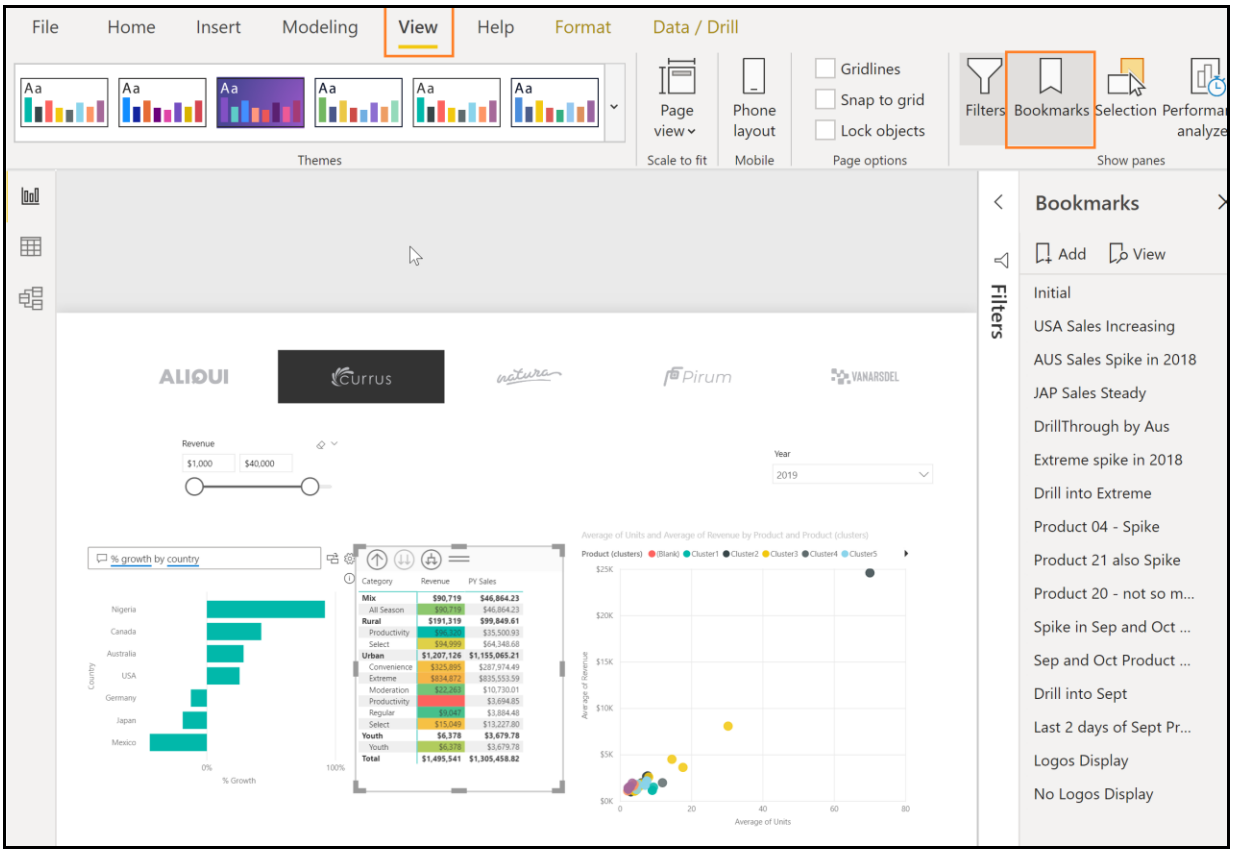
Note: This demo is to show the slicers available on numeric and dimension fields.

89. Add a **Revenue** slicer.
90. Use the slicer to take out the outliers.

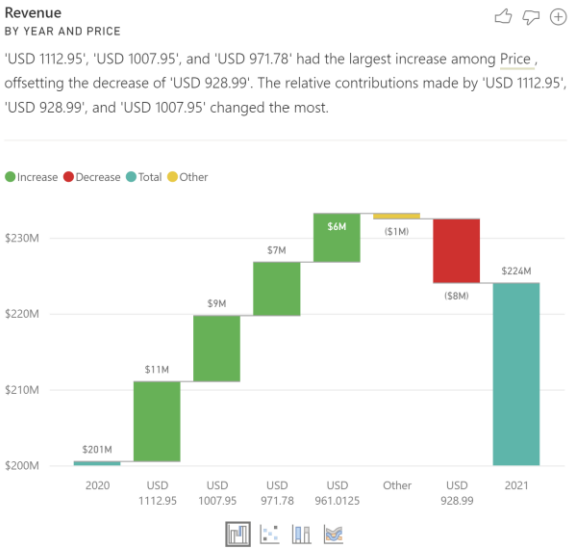
91. Use the slicer to keep **Revenue** between 1000 and 40000.
92. Notice with this configuration, Germany, Japan, and Mexico have negative growth.



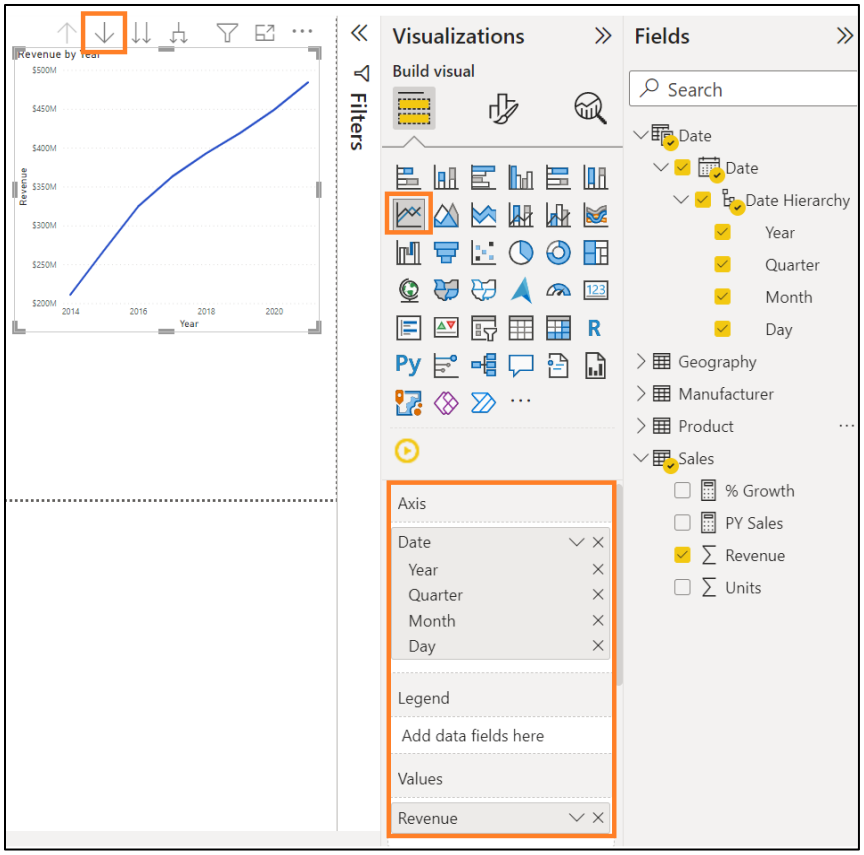
93. Enable the **Bookmark** pane.
94. Walkthrough the existing bookmarks and describe the use case for them.
95. Feel free to add new bookmarks for the Currus story that we have started investigating.



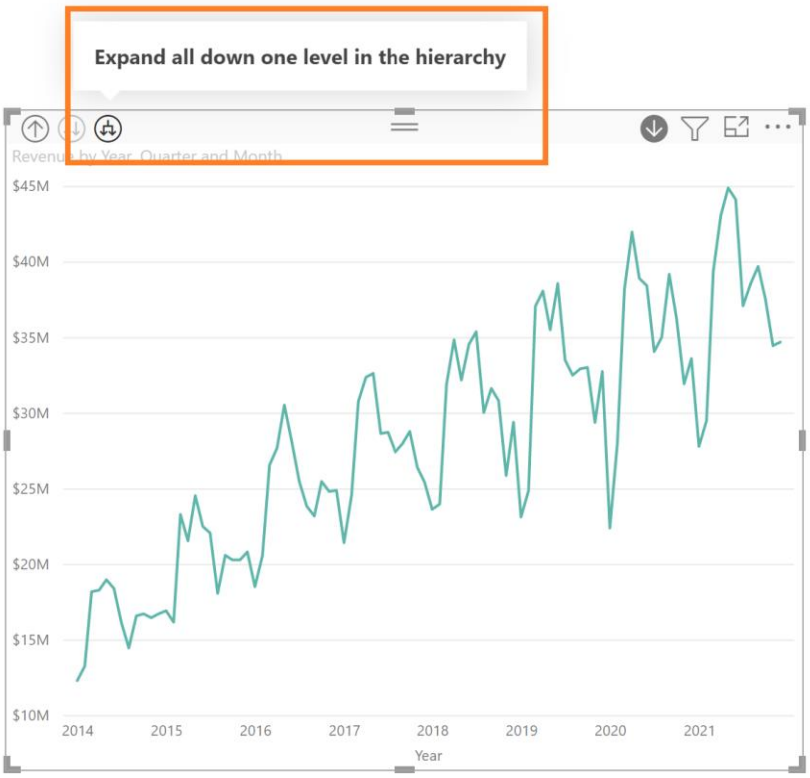
96. Navigate to the **By Manufacturer** report page.
97. From the **Revenue and % Growth by Year** column chart, right-click on **2021**.
98. Click **Analyze** and then click **Explain Increase**.
99. Talk about Power BI's capability to provide insights.



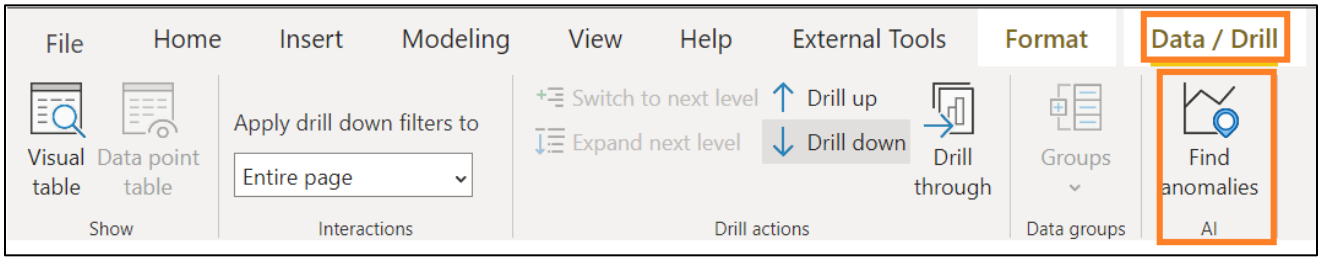
100. On a new page create a line chart of **Revenue** by **Date** and enable drilldown



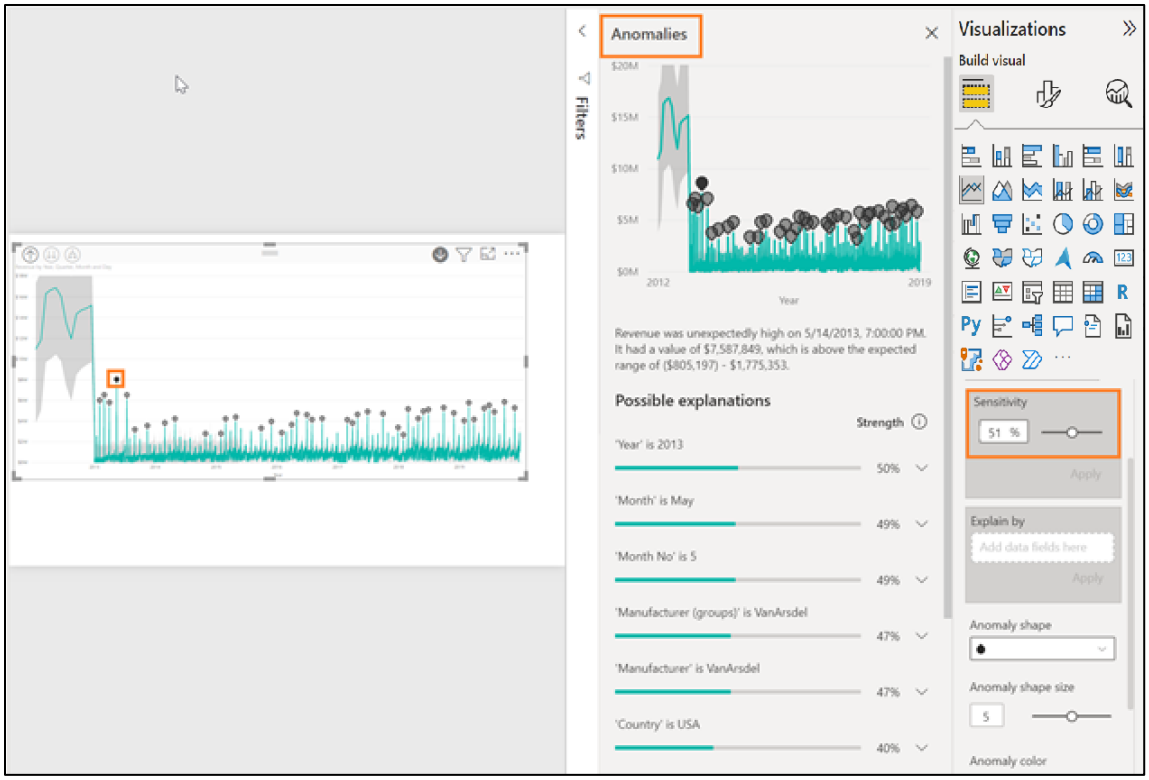
101. Click on **Expand all down one level in the hierarchy** to the Month level (3 clicks)



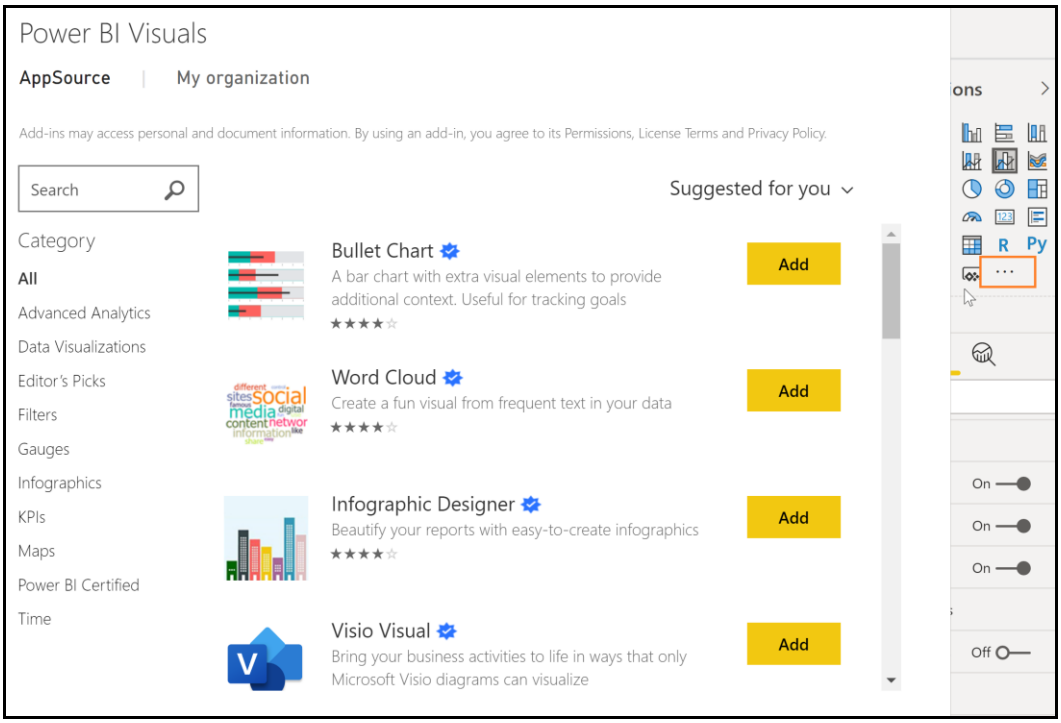
102. Drill down to Date level
103. Talk about the new analysis tool Find Anomalies, discuss sensitivity percentage
104. Find Anomalies has been added to the Data/Drill ribbon



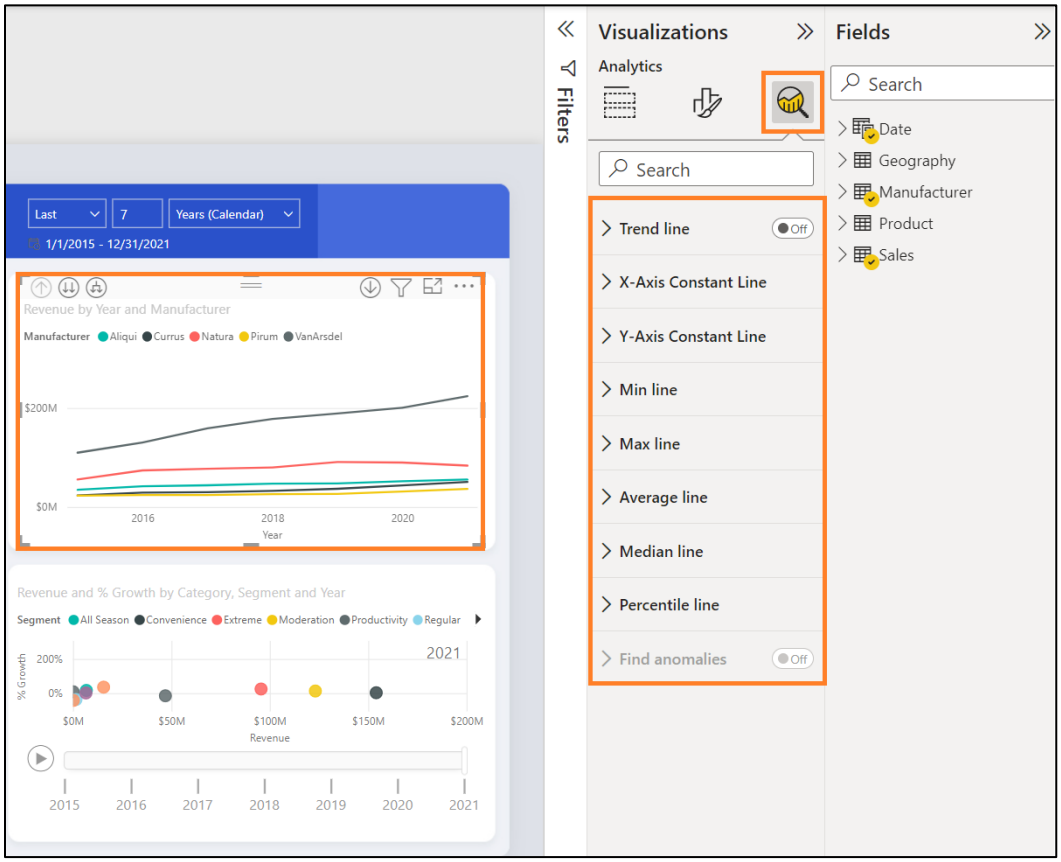
105. Click on an anomaly point and discuss Anomalies pane



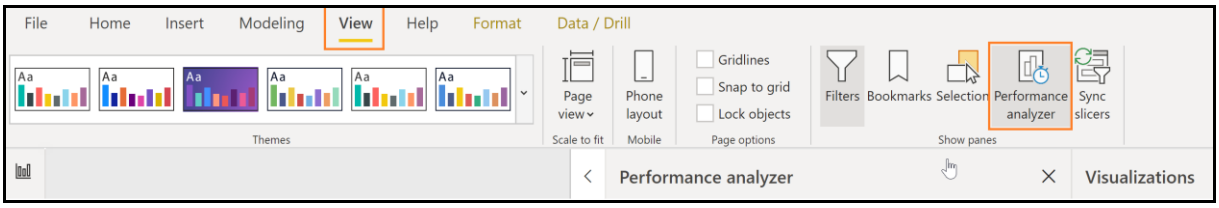
106. Talk about the custom visuals available in Microsoft store.
107. Use the **Play** axis custom visual to demo the feature.



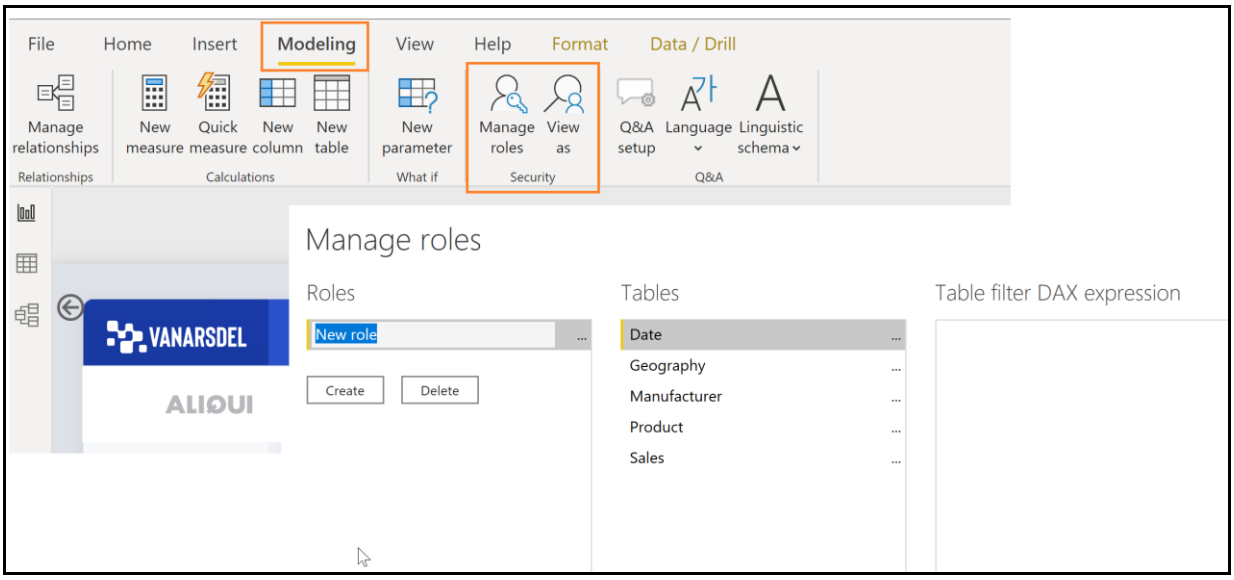
108. Navigate to the **Market Share** report page.
109. Using the **Line** chart, talk about the various analytics features available.



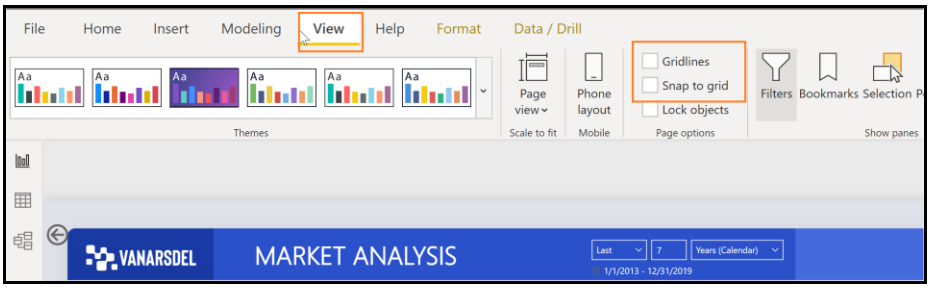
110. From the ribbon, click **View**, and then click **Performance Analyzer**.
111. Start recording and talk about the ability to analyze the performance.



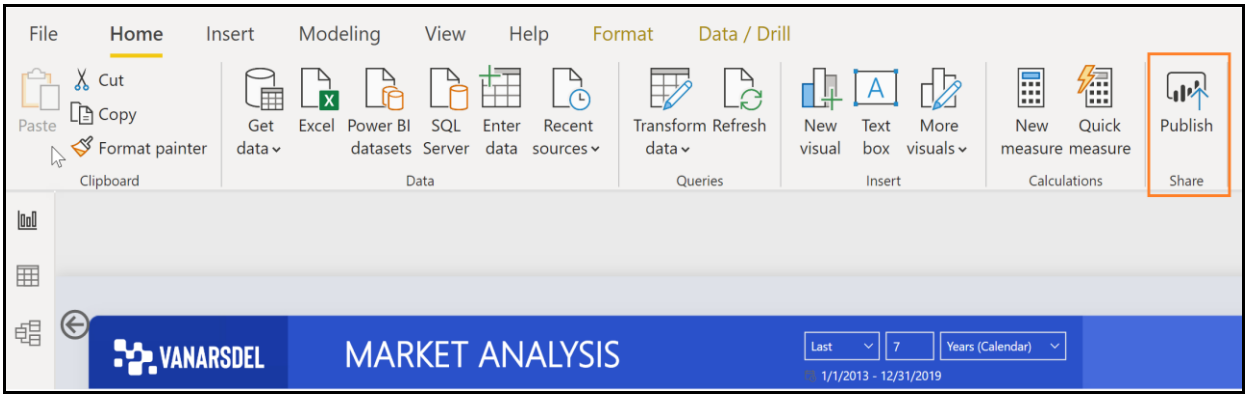
112. Using the **DIAD Final Report** in the **RLS.pbix** file, talk about the ability to create and manage roles.



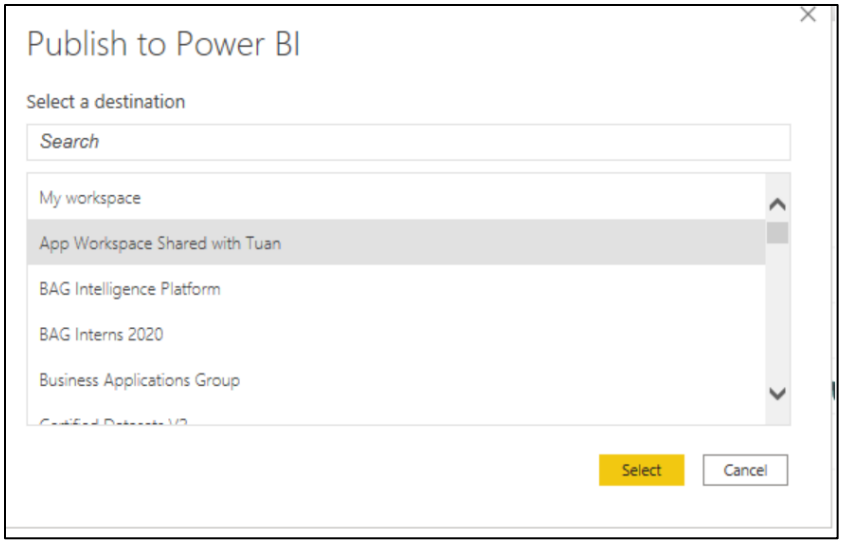
113. From the **View** menu, talk about **Grid lines** and **Snap to Grid** which help in formatting.
114. Format the new page you created using these features.
115. Talk about the **Phone** layout.



116. Talk about the ability to **Publish to Service**.



117. Talk about the new ability to search for a workspace while publishing a report
118. Search for the additional workspace created **DIAD2**


Publish to Power BI
Select a destination
Search
My workspace
App Workspace Shared with Tuan
BAG Intelligence Platform
BAG Interns 2020
Business Applications Group
Select
Cancel