# Interactive Reports in Power BI Desktop

**Read Me:** This lab builds on the previous labs for our product sales project. You will be focusing on visualization.

**Lab Time**: 60 minutes

## Exercise 1: Sales Revenue breakdown

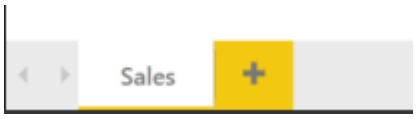
| In this exercise you create the Sales Revenue Breakdown report |
|---|

1. Launch Power BI Desktop if its not already open
2. Open the Power BI Desktop project **product_sales.pbix** in the **Class_Project** folder

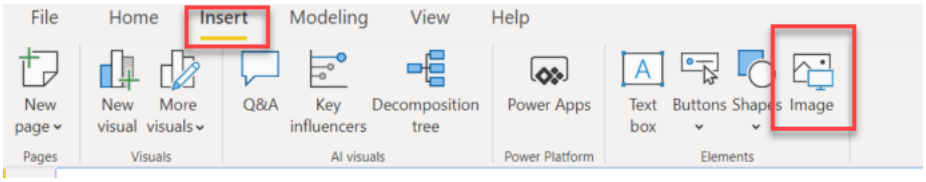
| C:\armely\Course-master\PBIX\03_Report\Lab\product_sales.pbix |
|---|

3. When the project opens, click the report icon on the top of the sidebar to enter report view mode.

4. Create a new report page to the project and rename it to Sales.



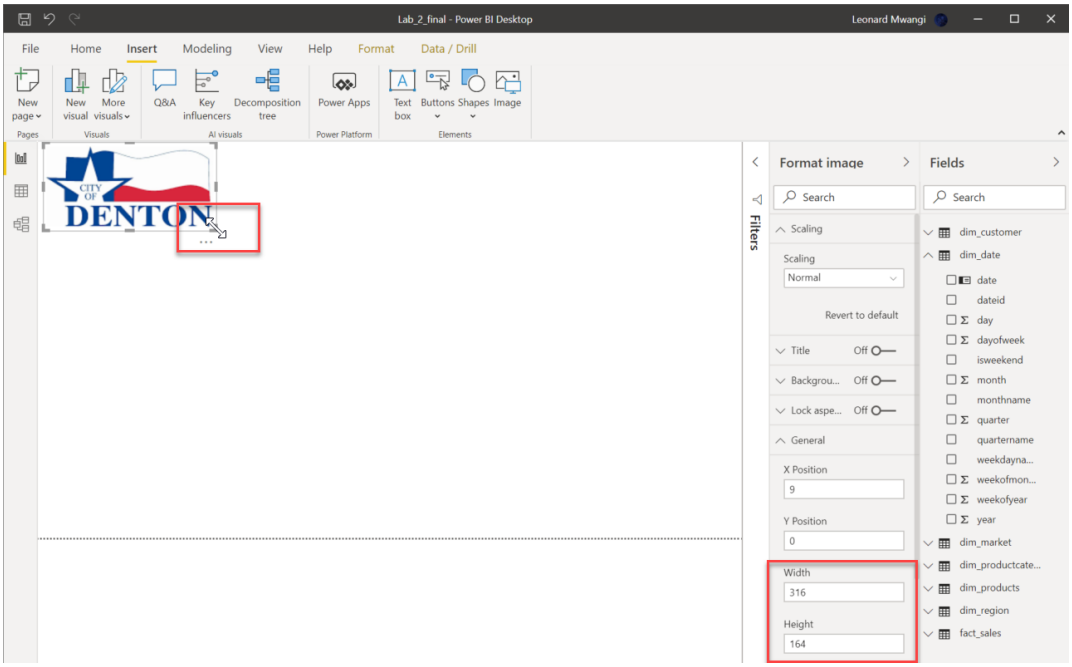

5. Add Image to your report
    a. On **Insert** Tab, click on **Image**



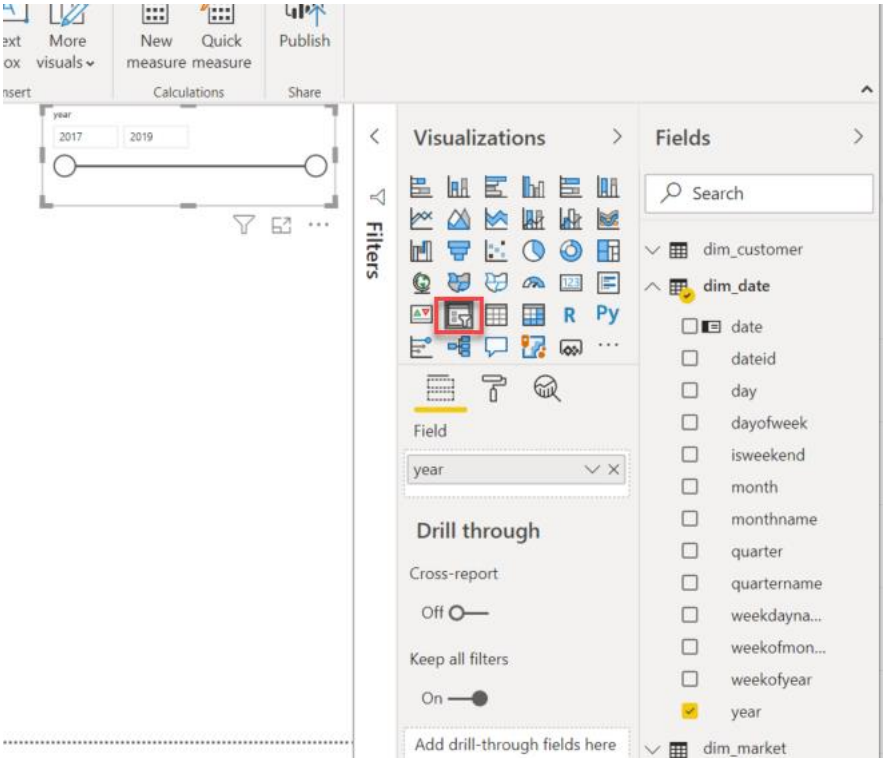

    b. Browse to Lab folder for the Report Module

| C:\armely\Course-courses\03_Reports\Lab |
|---|

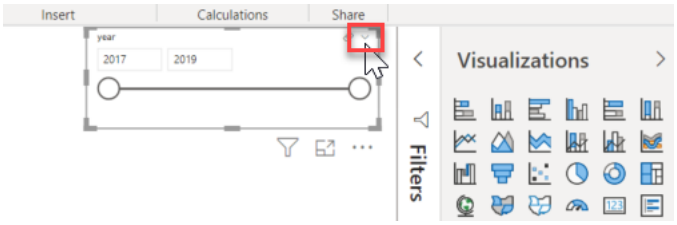
c. Click on **Open**, resize the image by **dragging the highlighted** corners or by changing the **width** and **height** from formatting pane to an appropriate size



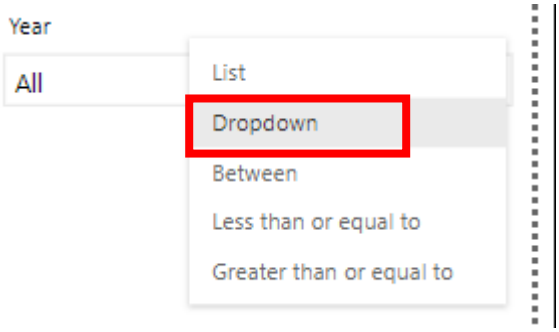

6. In this exercise, we will add a **Year Filter to the canvas**
   a. From fields, and Calendar table, drag **Year** into the canvas
   b. Change the visualization to **Slicer**



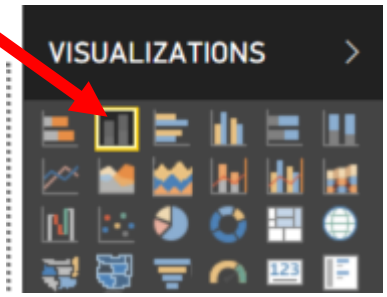

   c. Change the visualization to **the dropdown,** from right-hand corner of date filter, a small arrow is visible when you mouse over the visual



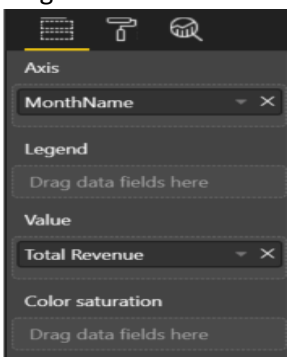

d. Click on it and select **Dropdown** from the pop-up menu



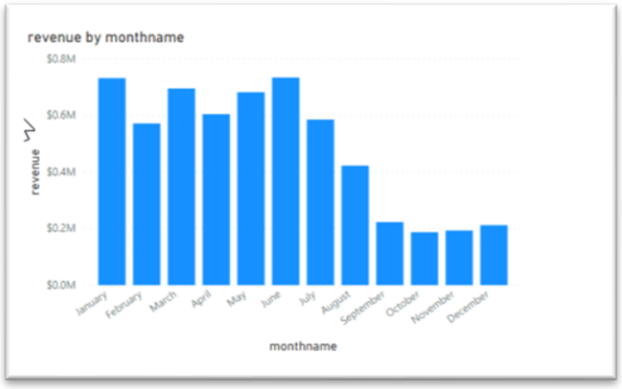

7. Add new visuals to the report as below
   a. Total Revenue by Month
      i. Click on Stacked Column Chart



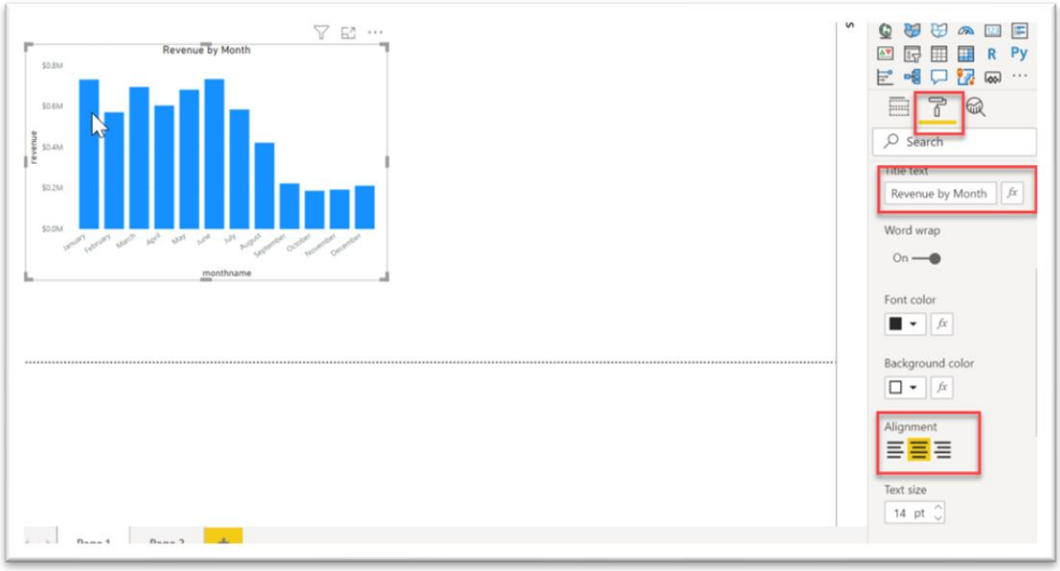

      ii. Drag Month from **Fields** to **Axis** and **Total Revenue** to **Value**



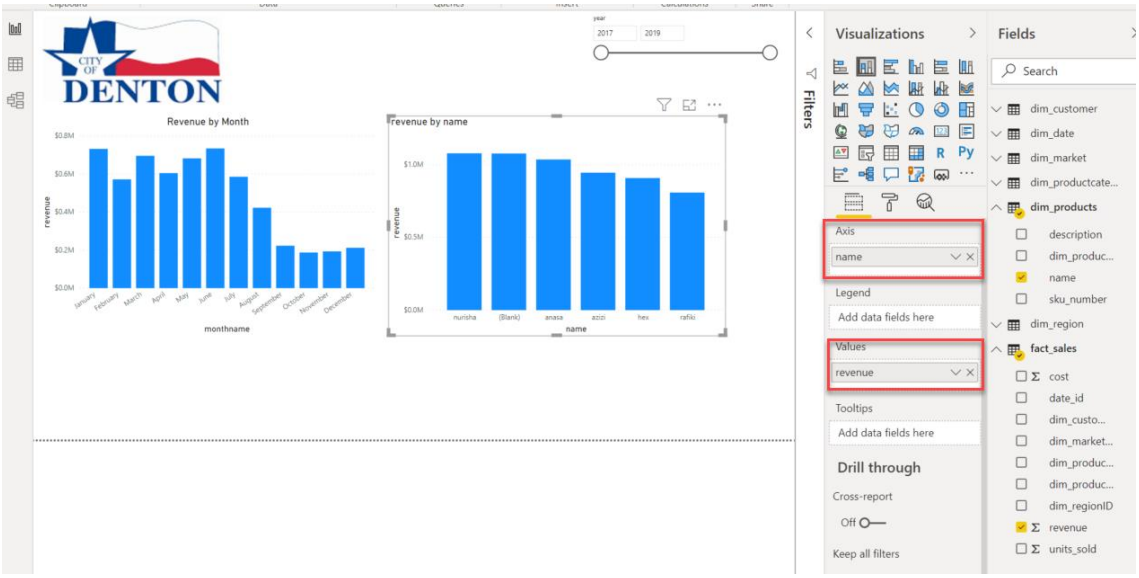

      iii. The outcome chart should be similar to this one




b. With the chart selected, Click on **Format** Chart as shown below
   i. Navigate to **Format** part of the visualization
   ii. Change Title Text to **Revenue by Month**
   iii. **Alignment** to **Center**

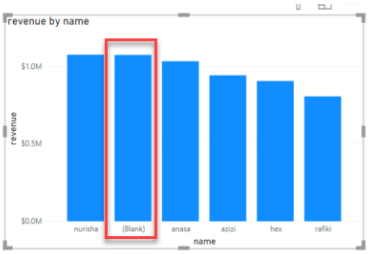



8. Add a second visual Revenue by Product Name
   a. Select **Stacked column** chart again
   b. Drag **product_name** from **dim_products** table to **Axis** and **Revenue** to **Value** Section

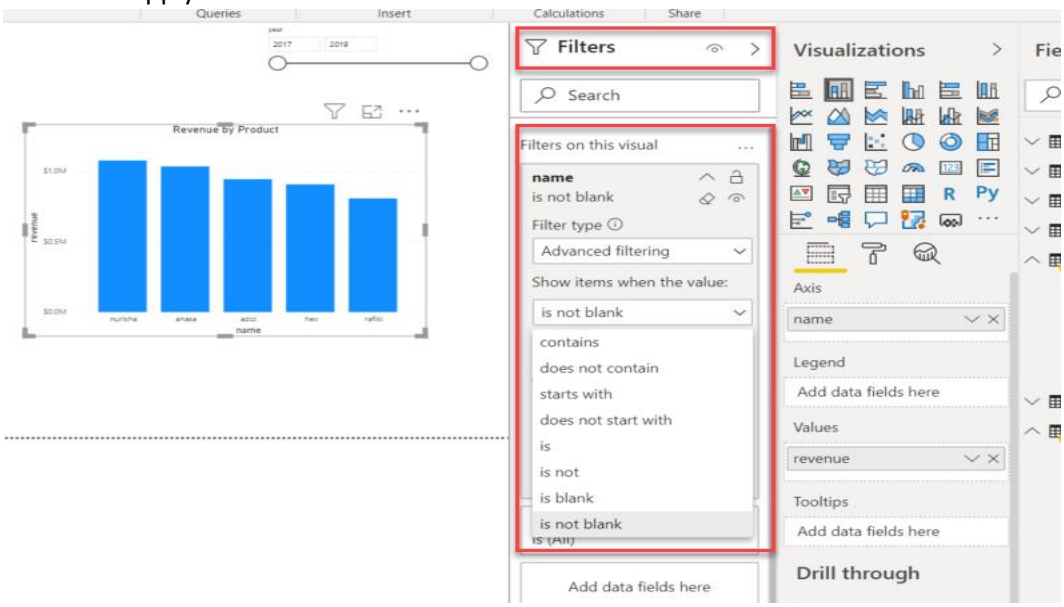



c. Use the formatting panel to format the visual
    i. Change the title to **Revenue by Product**.

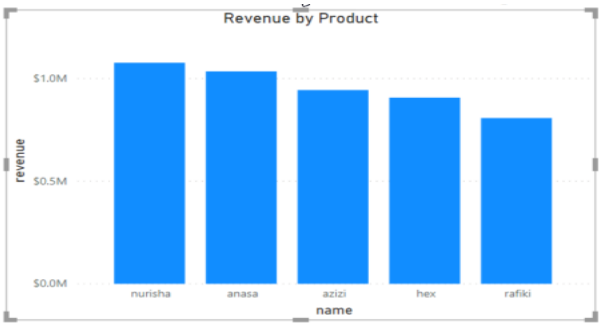
d. Notice a **Blank** product name in the chart, that's a sign of data issues. Eliminate it from the visual



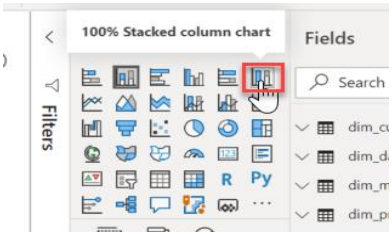

    i. With the chart selected click on the **name** on **Filters** Section
    ii. Change the Filter Type to **Advanced filtering**
    iii. In Show items when the value dropdown, select **is not blank**
    iv. Then click Apply



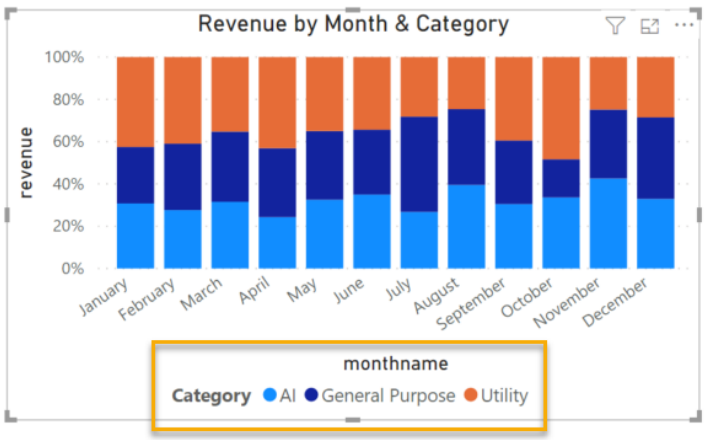
v. The data should now look as

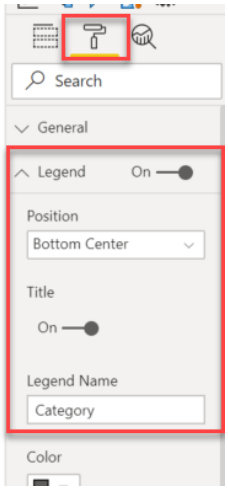



9. Add a 3rd visual Revenue by Month and Category
    a. This visual will use 100% Stacked Column Chart

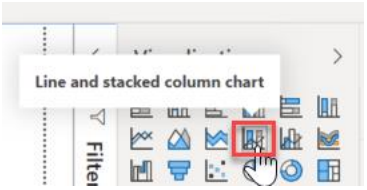



    b. Click on the visual to add it to the canvas
    c. Check the following columns from the fields
        i. **MonthName** in **dim_date**
        ii. **ProductCategory_Name** in **dim_Product_Category** Table
        iii. **Revenue** in **fact_Sales**
        iv. Format the chart
            1. Format the **title**
            2. Change the location of the **Legend** to **Bottom Center**
        v. **Rename** Legend filed in **name** to **Category,** you also have the option to turn the legend title to off. The visual should now look like this

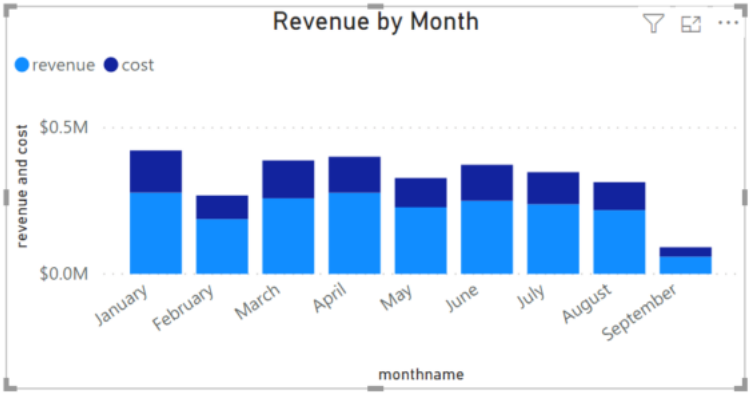


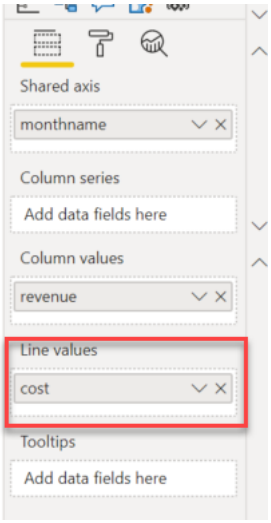

10. Add a 4th visual, **Line & Stacked Column**




a. Add the following fields to the chart
   i. **MonthName** from dim_date table
   ii. **Revenue** from fact_sales table
   iii. **Cost** from fact_sales table



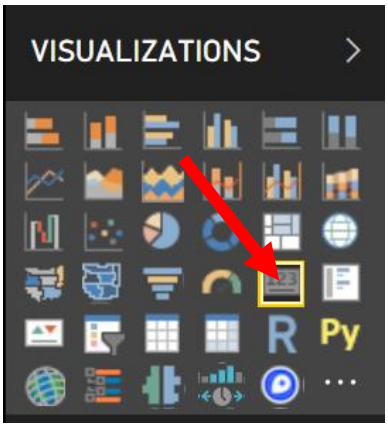

   iv. **Important** drag the cost column to line value section




   v. Change **Chart title** to Revenue vs Cost by Month
   vi. Result

b.

11. Add Profit Number
    a. From the visuals click on **Card**



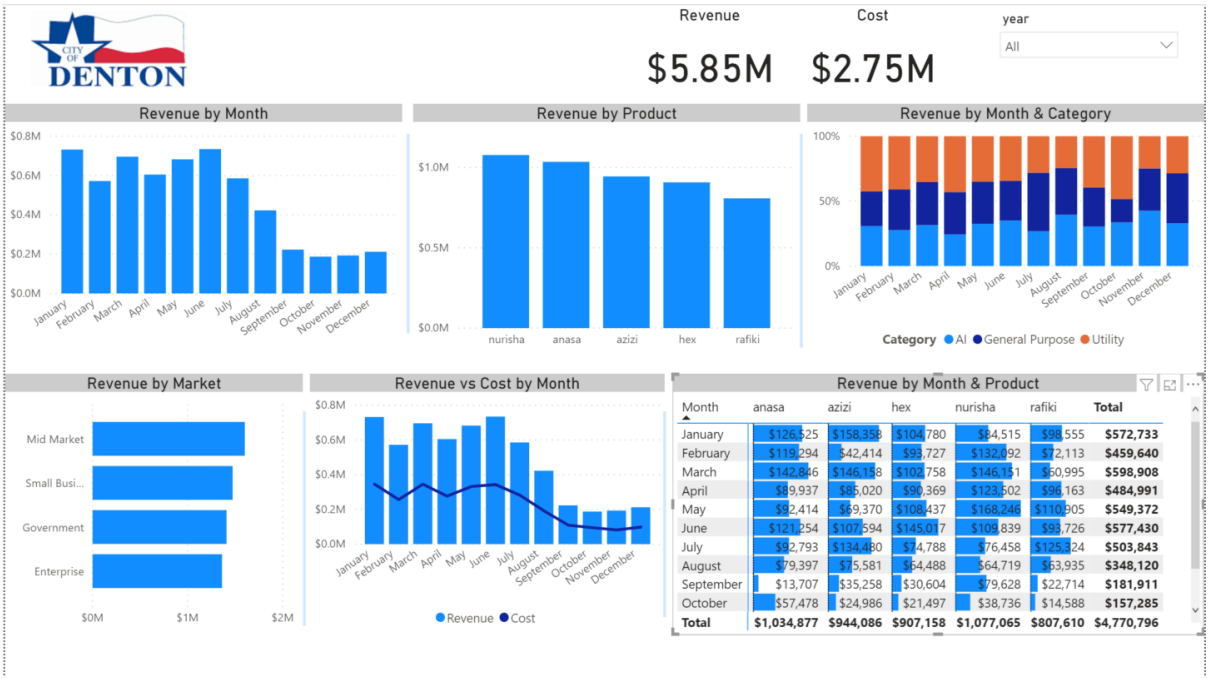

    b. With the card selected, click on **Total Revenue**
        i. Use format to Change the title and turn off **category Label** name
        ii. Turn **Title on** and set it as **Revenue**
        iii. Change text size in **Data Label** to 35

    c. The outcomes should be like the one below

Revenue

$5.85M

12. **Optional** You could add other visuals to bring your report to full life. I have added
    a. Matrix Table with conditional formatting – Revenue by Month and Product
    b. Stacked Bar – Revenue by Market
    c. Card – for cost




13. Save your report.

## Exercise 2: Themes

| In this exercise you will create a custom theme to enhance the visual colors of your report. |
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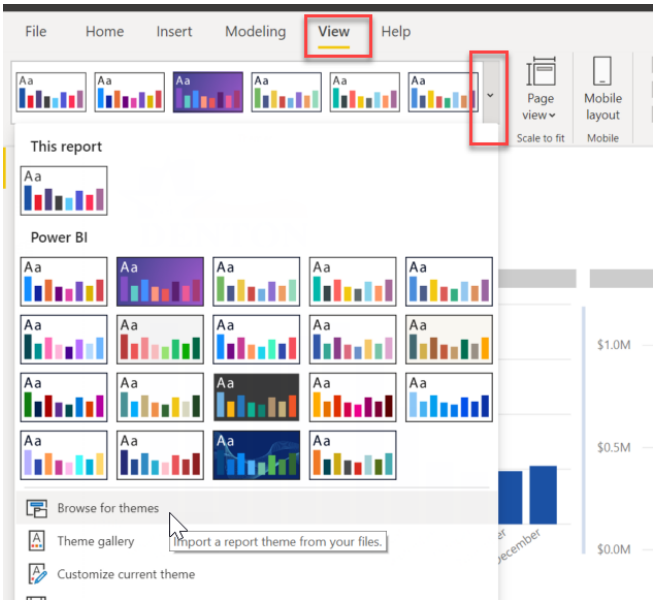
14. Before creating custom themes, Power BI does provide a wide range of themes that can be used in your report.
    a. These themes are accessible from the ribbon, **View→ Themes**

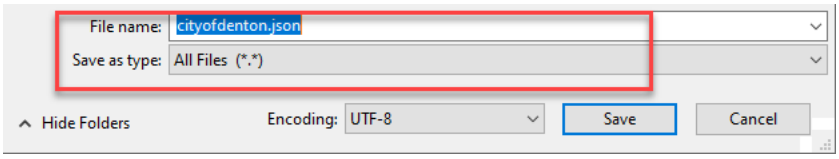



    b. Try different themes by clicking on any of them, for the class, I have chosen Classroom as my them

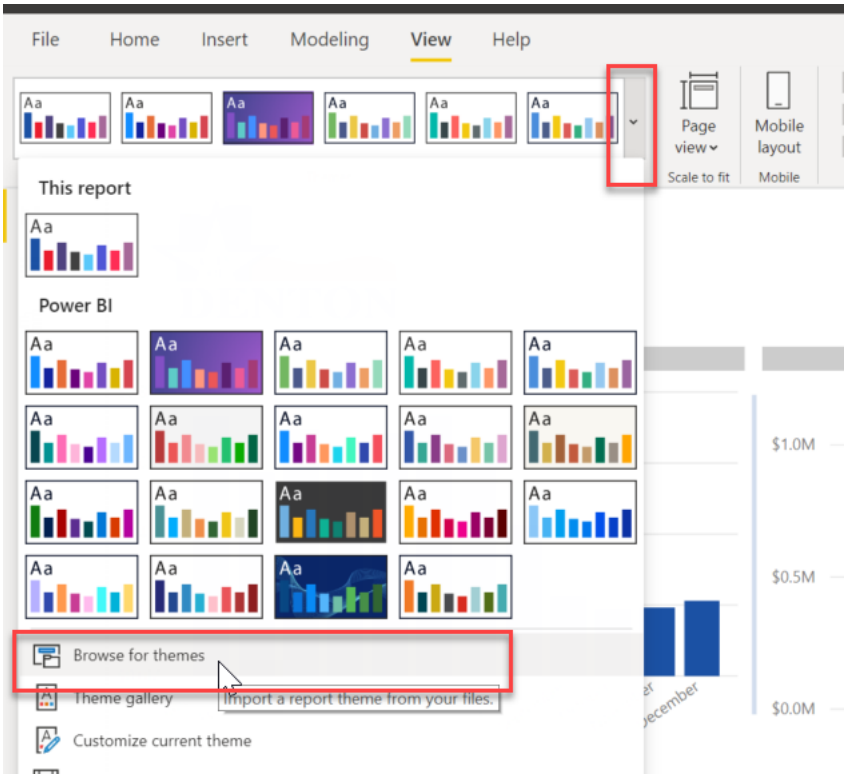

15. If the provided themes do not fit the organization's color wheel, you can build your own theme.
    a. Open notepad on your machine and paste the following JSON Script

```
{   "name": "CityofDenton",
    "dataColors": ["#1b51a4", "#ea1c2d", "#4f4380", "#404040", "#5ac8fa",
"#5056d6", "#ff2d55"],
    "background":"#FFFFFF",
    "foreground": "#404040",
    "tableAccent": "#05bbc4"
}
```

    b. **Important** Save the file in the lab folder as CityofDenton.JSON, make sure you change the file type in your save as process to avoid file type problems.



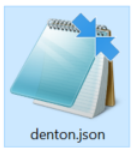

    c. Back in Power BI Desktop, click on **View** then click on **Browse for themes**

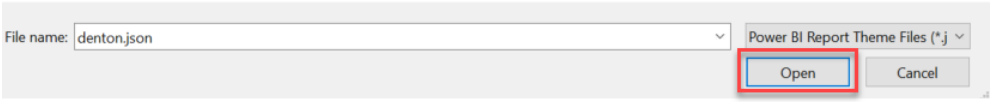



    d. Navigate to the location where the JSON file was saved

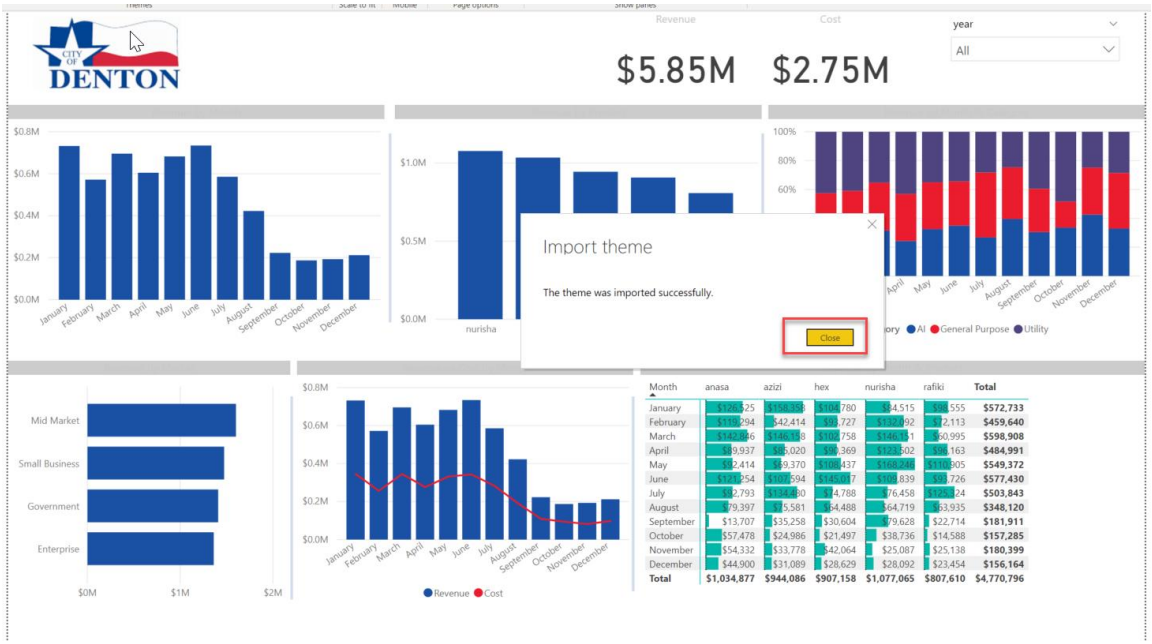
C:\armely\Course-master\PBIX\03_Report\Lab

e. Select the file, click on Open




f. My report should now inherit City of Denton colors




16. Save your report.

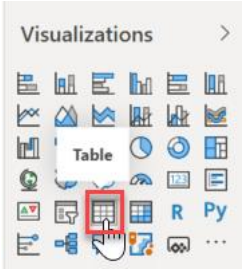
## Exercise 3: Drill Down and Drill Through

In this exercise you will create a Drill Down and Drill Through to enhance the usability of your report

17. Creating Drill Through In Power BI Desktop
    a. Create a new page at the bottom of the screen named **Sales Details**

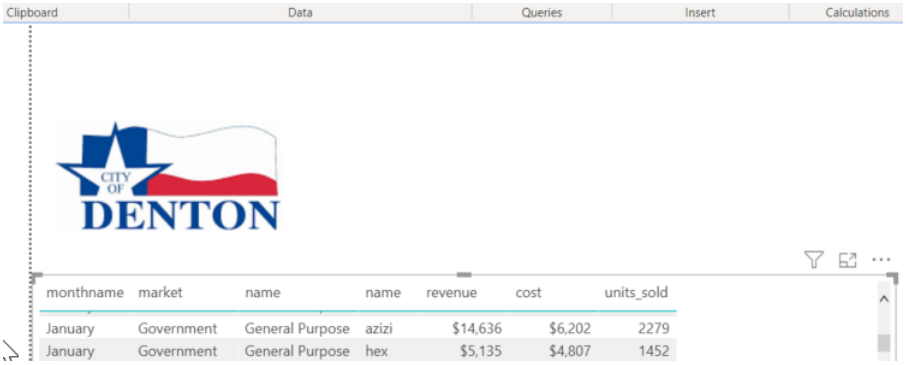

    b. Copy the logo from Sales page and paste it in the new page
        i. To copy, click on the logo to select it
        ii. You can used keyboard shortcuts to copy and paste in the new page, Ctrl+C (to copy) and Ctrl+P (to paste in Sales Details page), you can also use the copy button on the Home tab and Paste in the new page
        iii. Move the logo, down a-bit to allow space for the back button.

c. Add a table from the visualizations

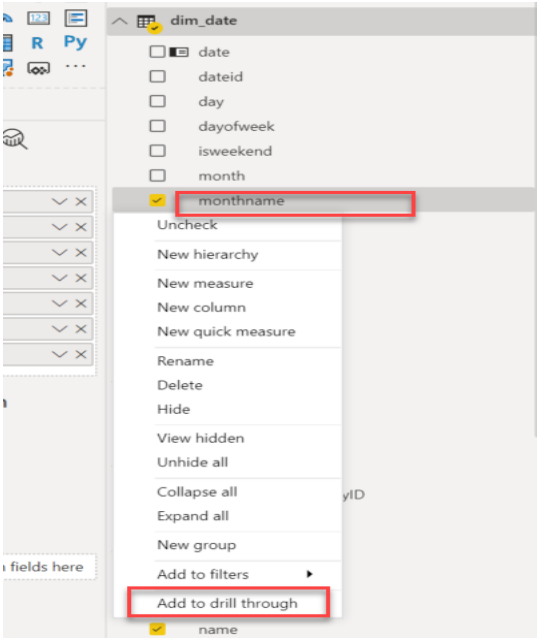



i. In the table add the following fields

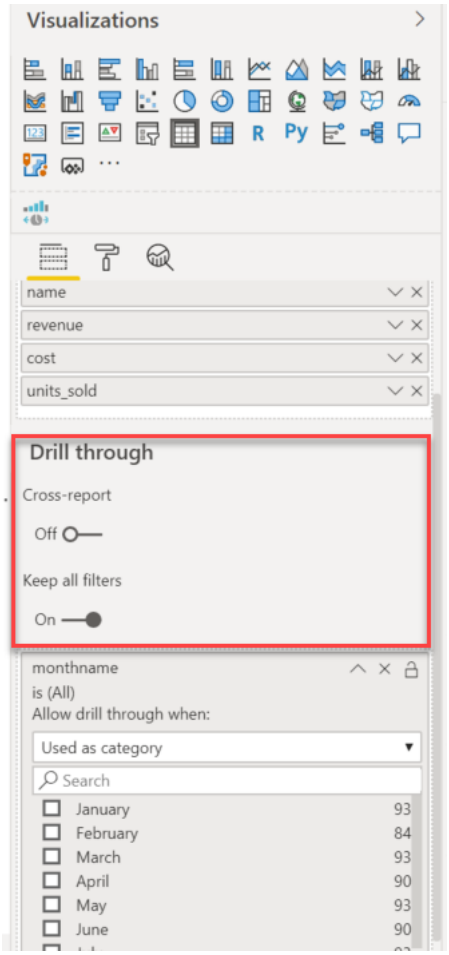
1. **MonthName** from dim_date table
2. **Market** from dim_market table
3. **ProductCategory_Name** from dim_productCategory table
4. **Products_Name** from dim_products table
5. **Revenue** from fact_sales table
6. **Cost** from fact_sales table
7. **Units_Sold** from fact_sales table



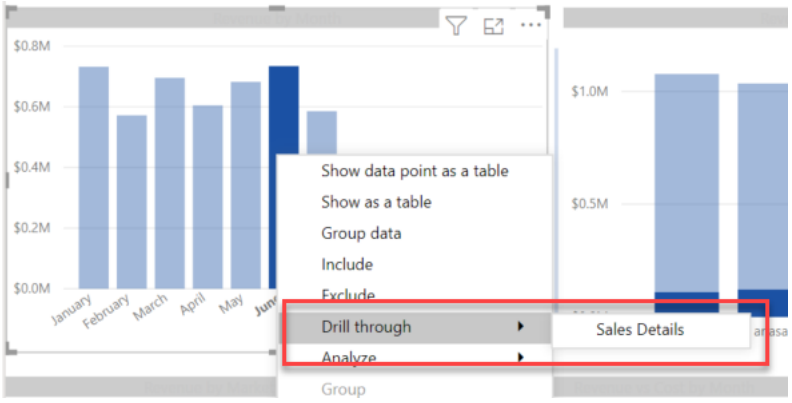

d. **Important** with Sales Details Page selected, **Right Click** on **MonthName** in dim_date table and select add to **drill through**



e. A Drill through field is added to the middle section of visualization



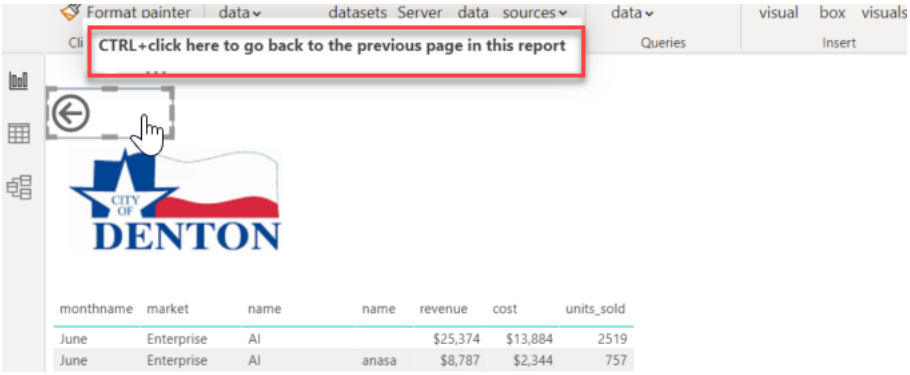

f. Navigate back to Sales Page and **Right-Click** any visual that has Month on it, you should see **Drill Through** section now referencing Sales Details.




g. Click it should only return the month that was selected while drilling through.

| monthname | market | name | name | revenue | cost | units_sold |
|---|---|---|---|---|---|---|
| June | Enterprise | AI | | $25,374 | $13,884 | 2519 |
| June | Enterprise | AI | anasa | $8,787 | $2,344 | 757 |
| June | Enterprise | AI | azizi | $14,125 | $8,097 | 1970 |
| June | Enterprise | AI | hex | $8,040 | $3,515 | 1333 |
| June | Enterprise | AI | rafiki | $9,832 | $1,091 | 724 |
| June | Enterprise | General Purpose | | $3,238 | $2,463 | 1518 |

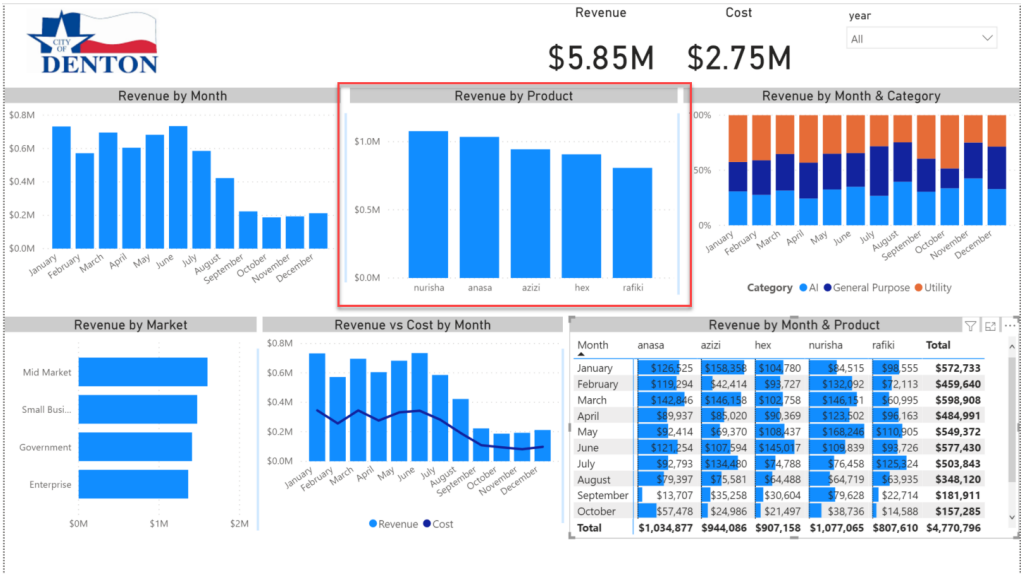
f. Configuring Drill Through also adds the back-button feature to the page



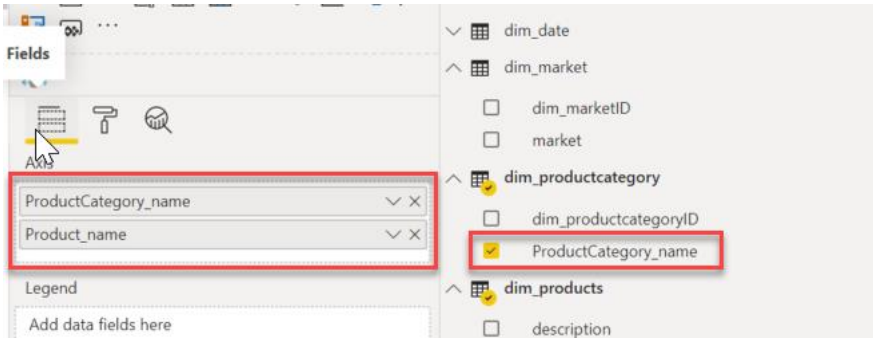

18. Save your Report

19. To create a drill down capability, a hierarchy must exist between the two variables on the chart, for this lab we will use the hierarchy between Products and Product Category

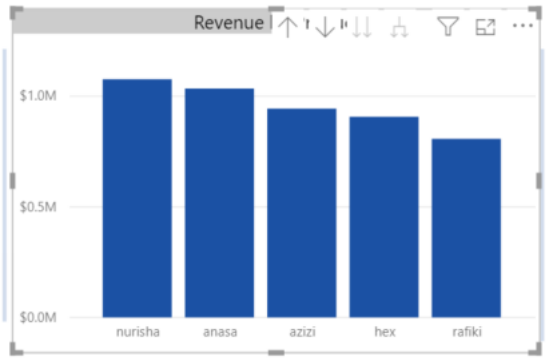
a. A Product belongs to a Product Category, select Revenue by Product visual



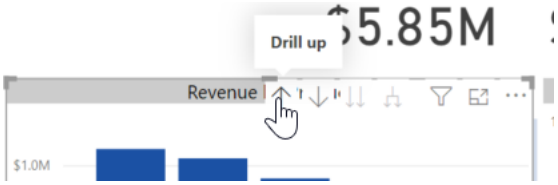

b. Drag **productCategory_name** column in dim_productcategory to the Axis on top of **product_name**



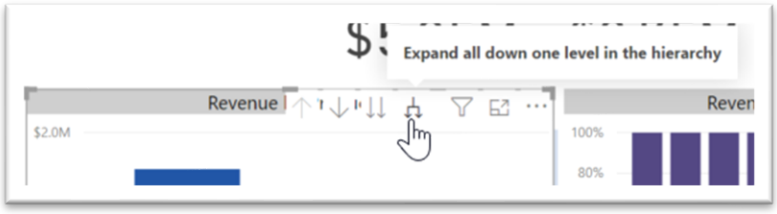

c. This should create a hierarchy and the **Revenue by Product** visual should look as follow

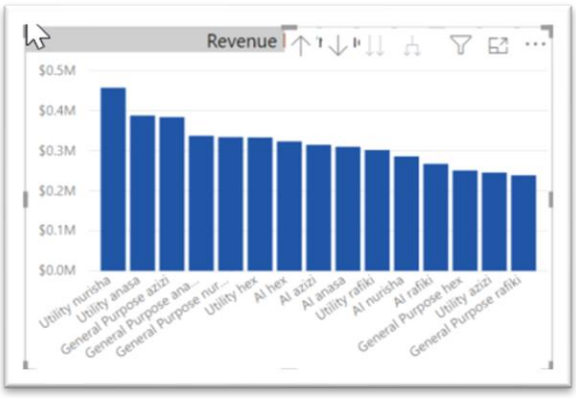



d. Test the drill up button to go to the highest level

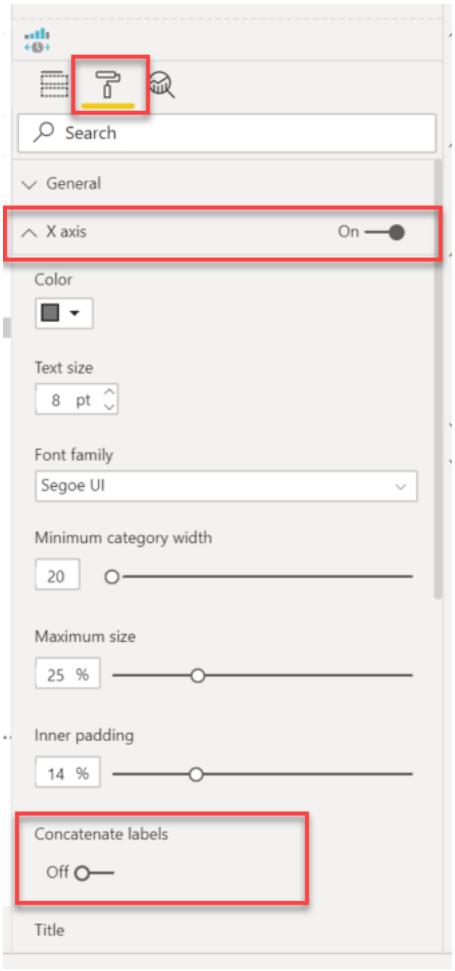



e. Repeat the process for the lowest level



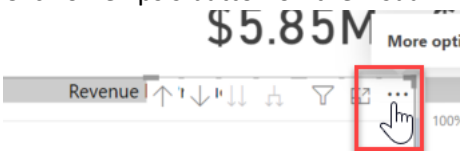




f. **Important** The presentation for the lowest level is not suitable, format it for better presentation.
    i. **Change Concatenation** – from format section, change the Concatenate labels in X axis to off

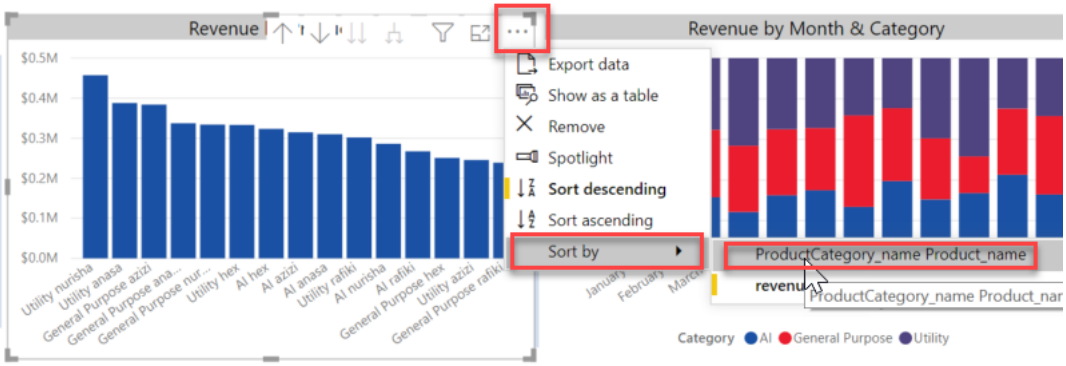



g. Change Visual Sort

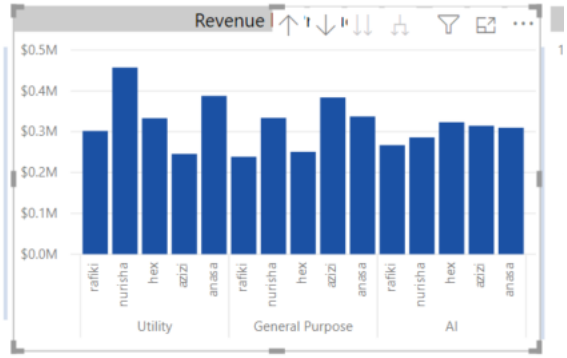
i. Click on ellipsis button on the visual




ii. Sort by ProductCategory_Name




iii. The visual should be more presentable now




20. Save your report.

Congratulation, you have completed this lab for reports, you will continue to work on this project in subsequent labs.