

# Hands-on Lab: Advanced Dashboard Capabilities in Cognos Analytics

Estimated time needed: 45 minutes

## Purpose of the Lab:

This lab focuses on enhancing skills in utilizing advanced features of IBM Cognos Analytics to create more dynamic and interactive dashboards. It delves into creating calculations, manipulating data points within visualizations, applying top/bottom settings on visualizations, and constructing navigation paths. Additionally, the lab provides hands-on experience in filtering data within a dashboard. The exercises are designed to provide a deeper understanding of how to leverage Cognos Analytics for more complex data analysis and visualization tasks, moving beyond basic dashboard creation.

## Benefits of Learning the Lab:

Engaging in this lab offers several key benefits for those interested in data analytics and visualization. You will acquire practical skills in advanced dashboarding techniques, such as creating custom calculations, effectively filtering and manipulating data, and utilizing Cognos Analytics to its full potential for comprehensive data analysis. These skills are vital for professionals in data analysis, business intelligence, and decision-making roles, as they allow for more nuanced and insightful analysis of data. The ability to create interactive and detailed dashboards enhances one's capability to present data in a more engaging and informative manner. This knowledge is particularly beneficial for those seeking to improve their data presentation skills, making complex data more accessible and actionable for decision-makers. Overall, the lab provides a strong foundation in advanced data visualization techniques, making it a valuable learning experience for advancing one's career in the field of data analytics.

## Software Used in this Lab

Like the videos in the course, for the hands-on labs, we will be using IBM Cognos Analytics trial version (currently limited to 30 days), as this is available at no charge.

## Dataset Used in this Lab

The dataset used in this lab comes from the VM designed to showcase IBM Cognos Analytics. This dataset is published by IBM. You can download the dataset file directly from here: [CustomerLoyaltyProgram.csv](#)

## Objectives

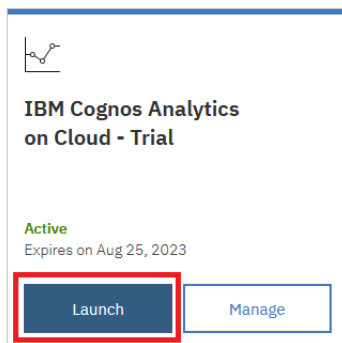
After completing this lab, you will be able to:

- Start a new dashboard
- Create calculations
- Keep/exclude data points from a visualization
- Set top/bottom on a visualization
- Create and leverage navigation paths
- Filter data in a dashboard

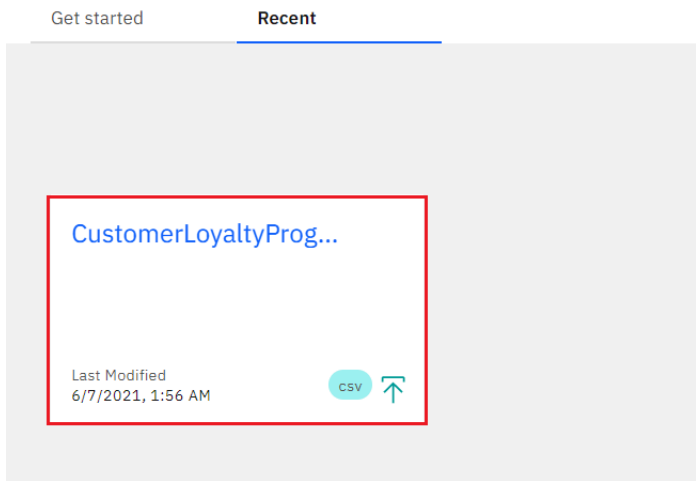
## Exercise 1: Start a New Dashboard

In this exercise, you will start a new dashboard for working with advanced Cognos Analytics dashboard capabilities.

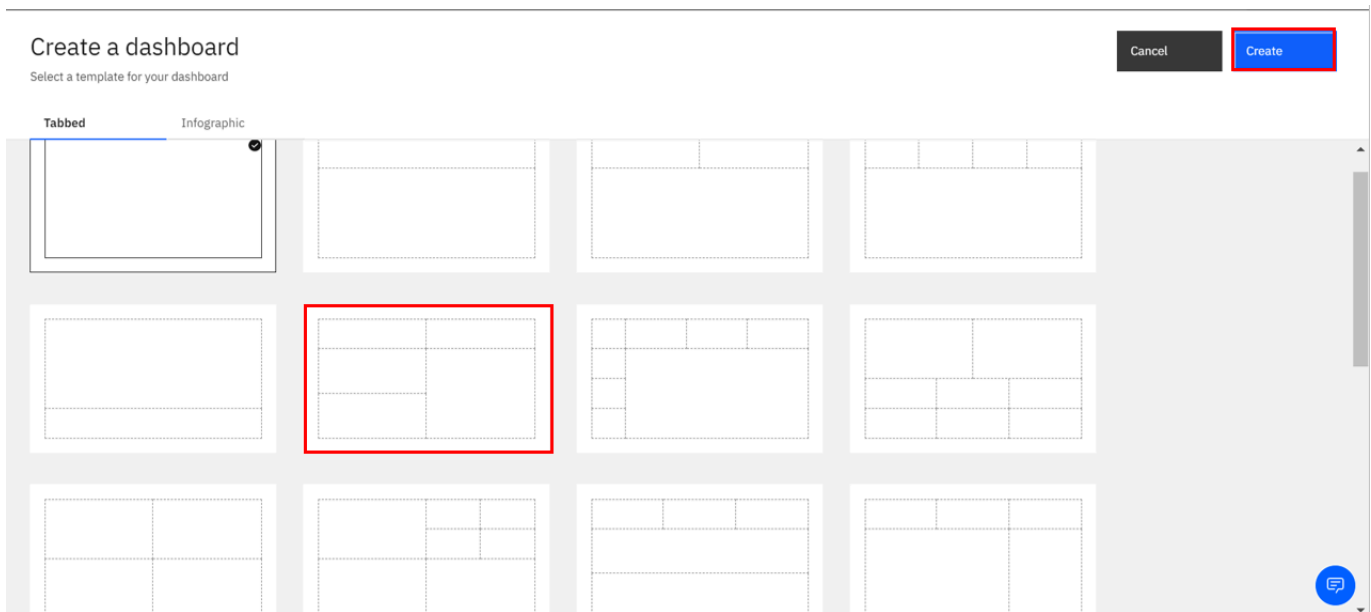
1. To sign in to the Cognos Analytics platform with your IBMid, go to [myibm.ibm.com/dashboard/](https://myibm.ibm.com/dashboard/).
2. Enter your IBMid and password.
3. Scroll down and click **Launch**.



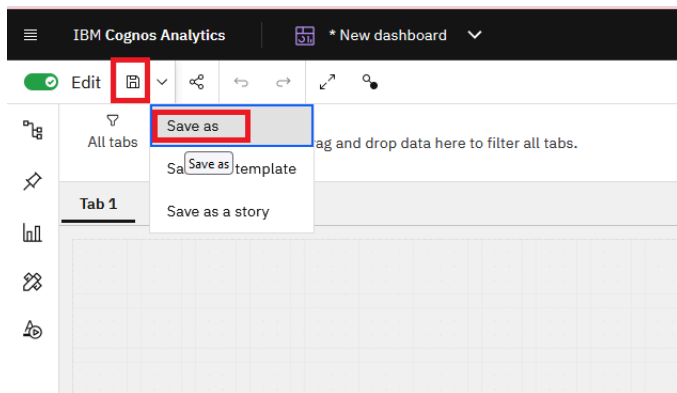
4. From the **Recent** section, click the uploaded data file **CustomerLoyaltyProgram.csv**.



5. The template window will be displayed, allowing you to select the type of dashboard and the template style. Select the **Tabbed** dashboard style. This will allow you to have multiple pages for your dashboards. Select the *five-panel template*, then click **Create**.

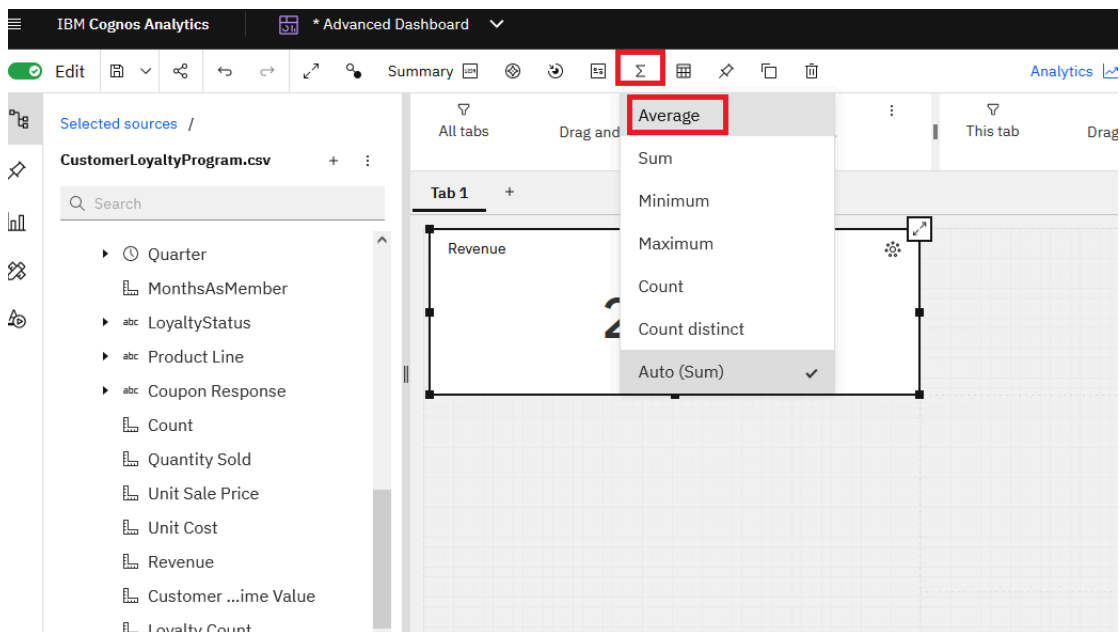


6. To save the newly created dashboard, press **CTRL+S** or click the **Save** icon and then click **Save as**.

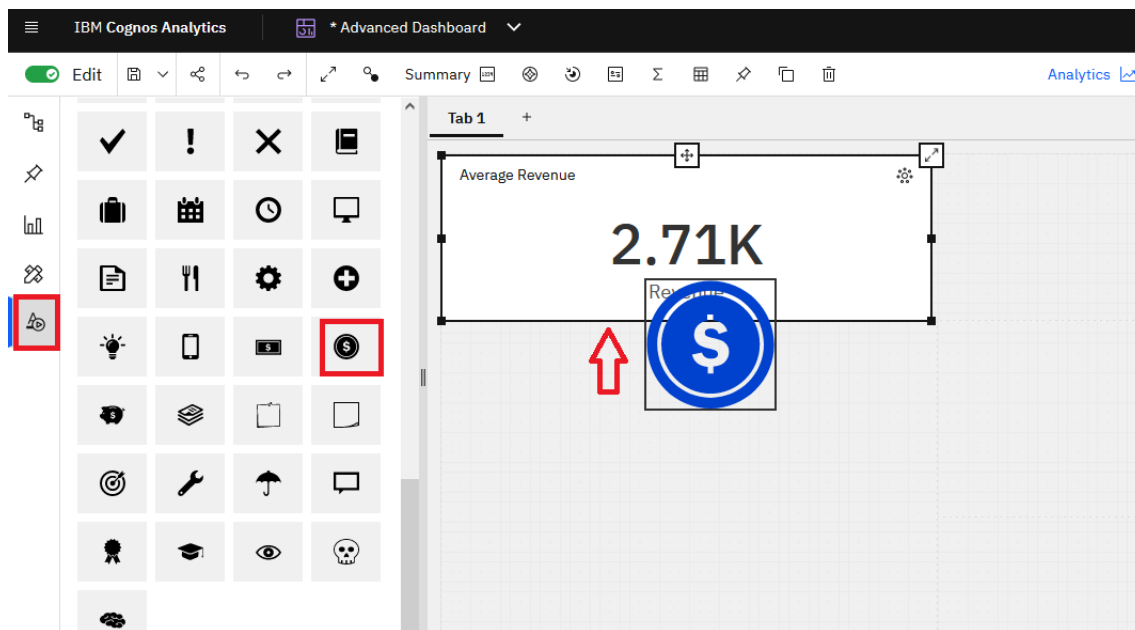


7. A new **Save as** window will pop up. Follow the steps as displayed below to save your dashboard as **Advanced Dashboard** in the **My content** section.





12. In the summary chart in Panel 1, select the title of the visualization and change it to *Average Revenue*.
13. From the **Navigation** panel, select **Widgets** to open the widgets panel. Drag and drop **Money coin** from **Shapes** to the center of Panel 1.



14. To save the current work in the dashboard, press **CTRL+S** or click **Save** in the toolbar.
15. Your Panel 1 visualization should look similar to the one below:

### Average Revenue



💰 = 100 Revenue

## Exercise 2: Working with Advanced Cognos Analytics dashboard capabilities

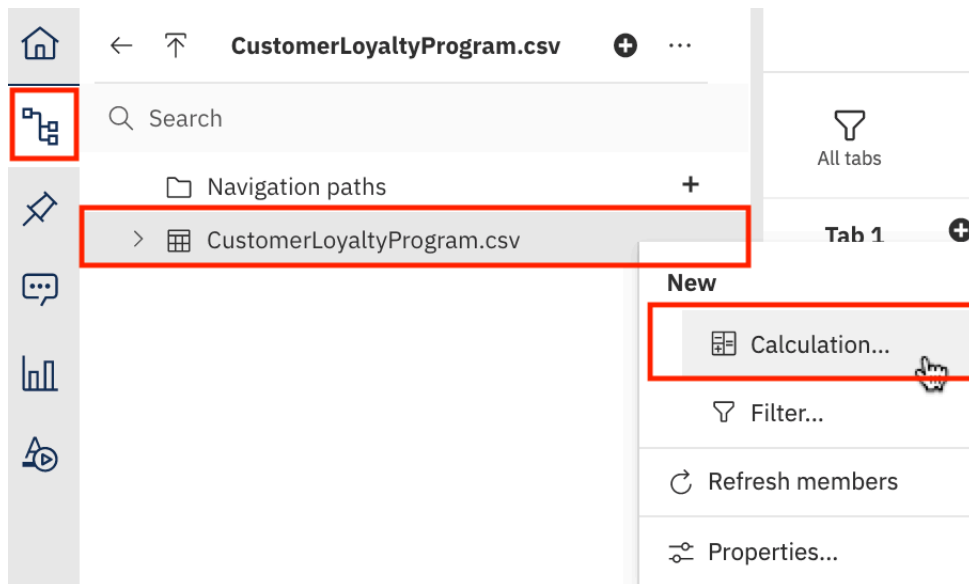
In this exercise, you will practice some advanced Cognos Analytics dashboard capabilities.

- Task A: Create calculations

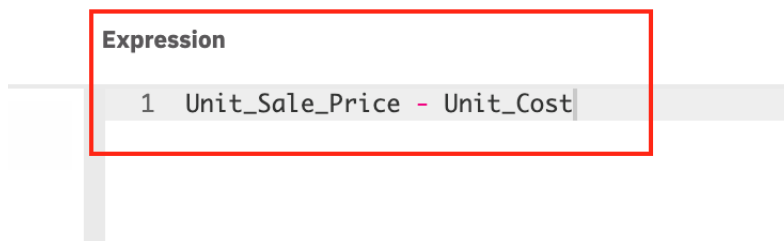
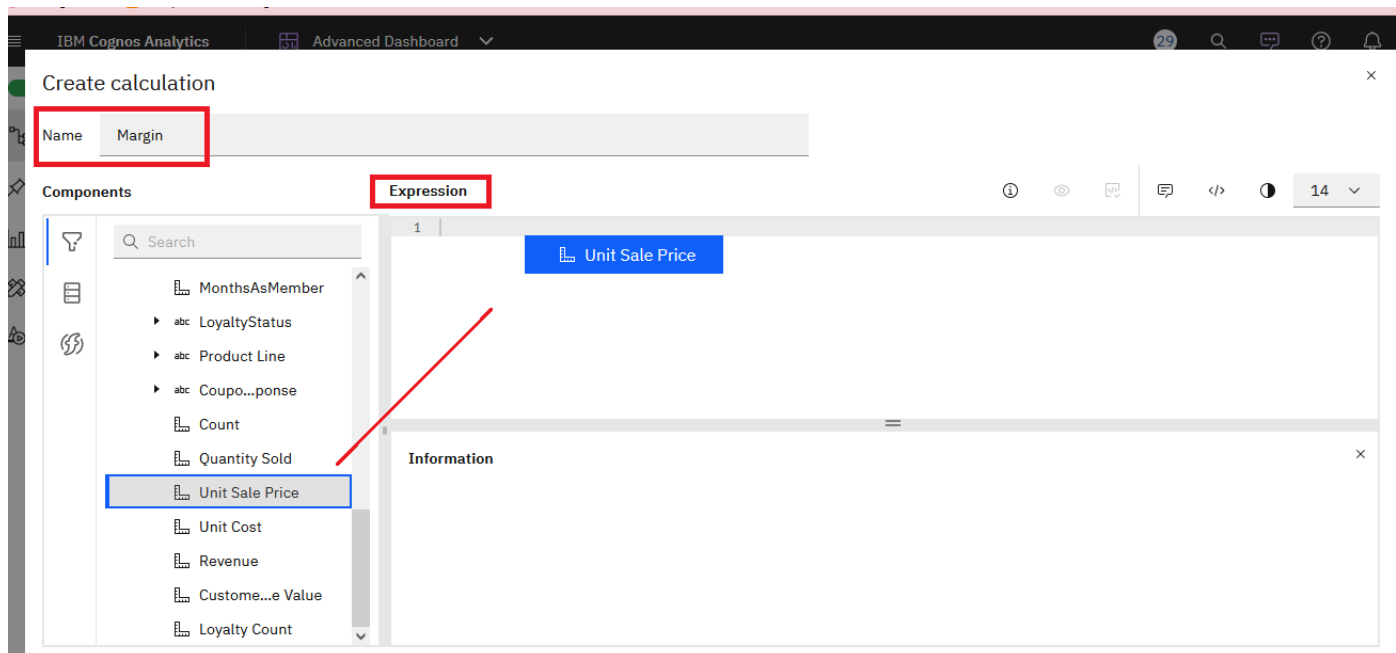
- Task B: Keep/Exclude Data Points from a visualization
- Task C: Set Top/Bottom on a visualization
- Task D: Create and Leverage navigation paths
- Task E: Filter Data in the current tab

### Task A: Create Calculations

1. From the **Navigation** panel, select **Sources** to open the data source panel if it is not already open. The data source panel displays the uploaded file **CustomerLoyaltyProgram.csv** as the selected source.
2. Right-click the **CustomerLoyaltyProgram.csv** data source and select **Calculation**.



3. Change the calculation name to **Margin**. From the **Components** panel, drag **Unit Sale Price** to the **Expression** field, type a space, then the minus sign, -, to the right of it, and then drag **Unit Cost** to the right of that. Click **OK**.



4. In the data source panel, expand **CustomerLoyaltyProgram.csv** if needed, and drag **Margin** to the center of **Panel 2**, releasing it once you see the drop zone turn blue.
5. Right-click the margin chart in Panel 2, point to **Summarize**, and then select **Average**.
6. From the data source panel, right-click on **Margin** and click **Format data**.

The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Selected sources' pane lists 'CustomerLoyaltyProgram.csv' with a search bar and a tree view of fields including # Loyalty#, abc First Name, abc Last Name, abc Customer Name, Country, Province or State, City, and Latitude. The main area shows 'Tab 1' with a visualization of 'Average Revenue' represented by a row of 100 coin icons, where one icon is highlighted and labeled '\$ = 100 Revenue'. To the right, a 'Margin' card displays the value '84.34'. A context menu is open over the 'Margin' field, with options: Filter..., Create calculation..., Create data group..., Edit calculation..., Remove, Format data... (highlighted), and Properties...

7. In the **Format type** list, select **Currency**.

The 'Data format' dialog box is shown for the 'Column: Margin'. The 'Format type:' dropdown is open, displaying a list of options: Unformatted, Text, Number, Percent, Currency (highlighted with an orange box), Date, Date/Time, Time, Time interval, and Custom. A small icon of a calculator with a dollar sign is visible. Below the list, a note states: 'By default, this data is formatted as currency. You can select a different format type and specify its properties.' At the bottom right, there is a 'Reset properties' button.

8. Select **\$ (USD) - United States of America, dollar** as the currency and click **OK** at the bottom.

The 'Data format' dialog box is shown for the 'Column: Margin'. The 'Format type:' is set to 'Currency'. The 'Currency' dropdown is open, displaying a list of currencies: Default, lei (RON) - Romania, lei, pyb. (RUB) - Russia, ruble, ر.س. (SAR) - Saudi Arabia, riyal, kr (SEK) - Sweden, krona, S\$ (SGD) - Singapore, dollar, ฿ (THB) - Thailand, baht, TL (TRY) - Turkey, lira, NT\$ (TWD) - Taiwan, dollar, ₴ (UAH) - Ukraine, hryvnia, \$ (USD) - United States of America, dollar (highlighted with an orange box), Bs.F. (VEF) - Venezuela, bolívar fuerte, ₫ (VND) - Việt Nam, đồng, and R (ZAR) - South Africa, rand. On the left, there are several settings: Currency symbol, Number of decimal places, Use thousands separator, Currency display, and Missing value characters.

9. In the margin chart in Panel 2, select the title of the visualization and change it to *Average Margin*.

10. To save the current work in the dashboard, press **CTRL+S** or click **Save** in the main toolbar.

11. Your Panel 2 visualization should look similar to the one below:

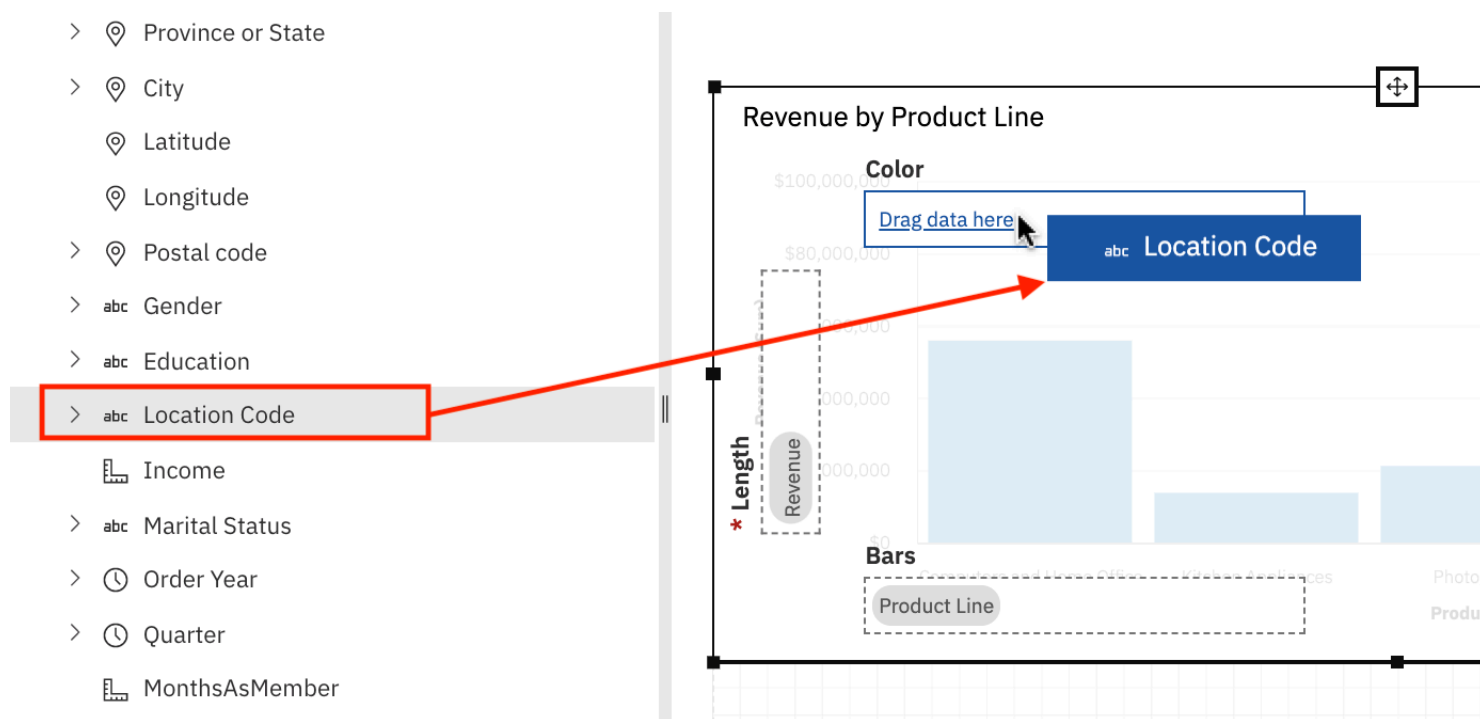
## Average Margin

\$84.36

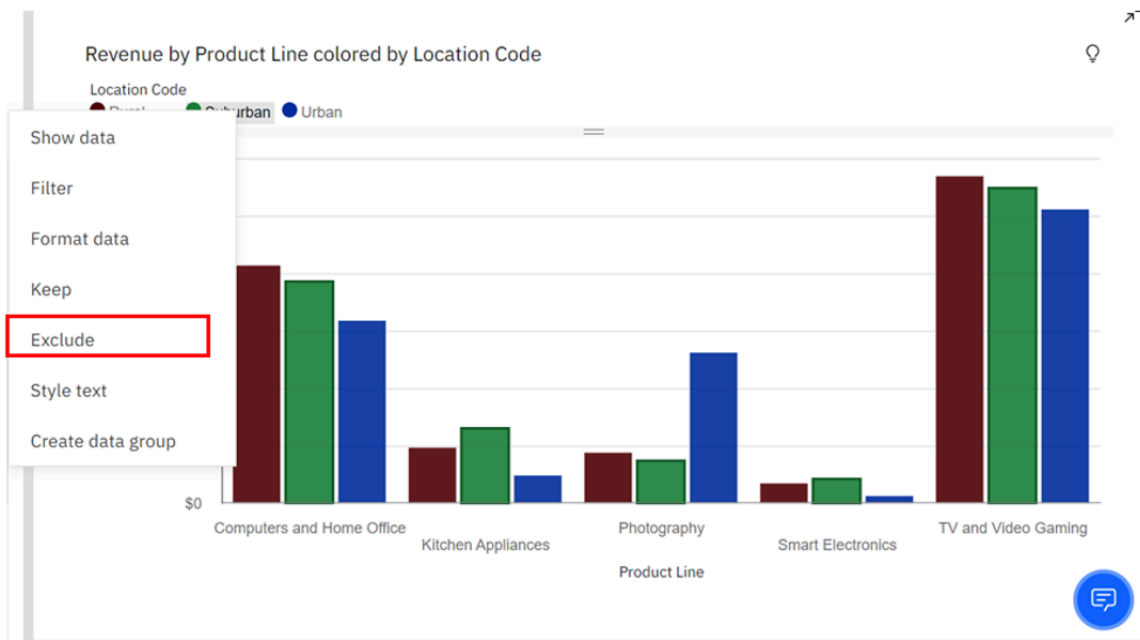
Margin

### Task B: Keep/Exclude Data Points from a Visualization

1. In the data source panel, expand CustomerLoyaltyProgram.csv if needed. Press the **CTRL** key and select **Revenue** and **Product Line** and drag them both to the center of **Panel 3**, releasing them once you see the drop zone turn blue.
2. From the data source panel, drag **Location Code** to the **Color** drop zone of **Panel 3**.

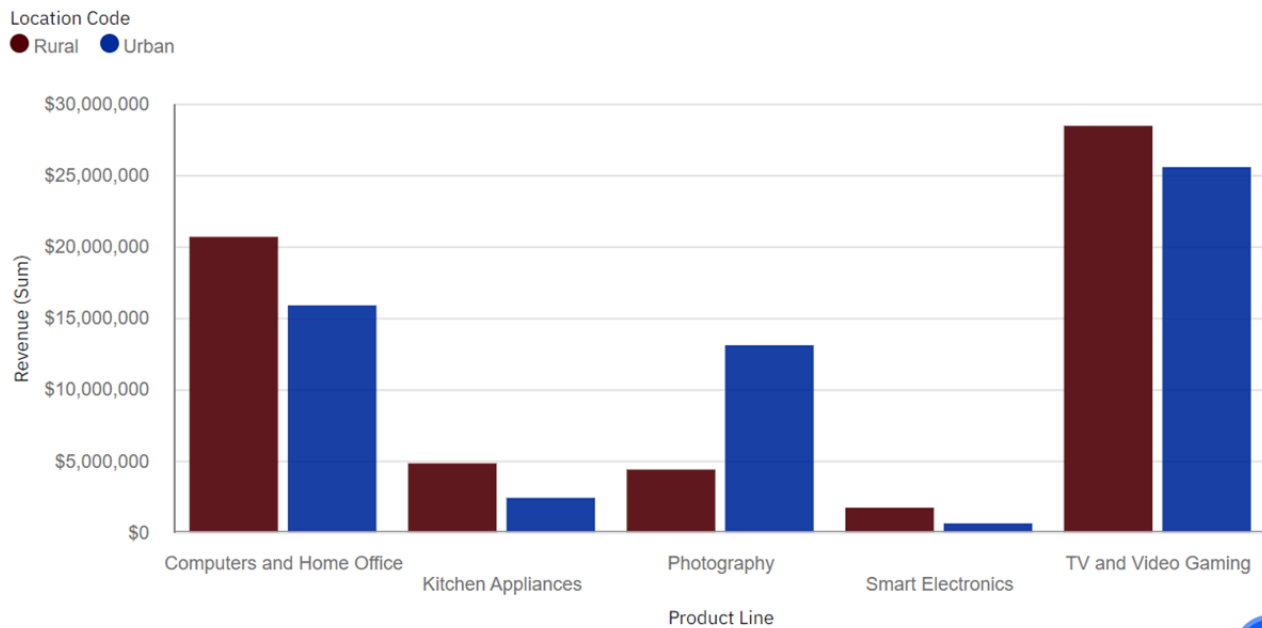


3. Right-click the **Suburban** data point in the Panel 3 visualization, and select **Exclude**.



4. To save the current work in the dashboard, press **CTRL+S** or click **Save** in the main toolbar.
5. Your Panel 3 visualization should look similar to the one below:

Revenue by Product Line colored by Location Code

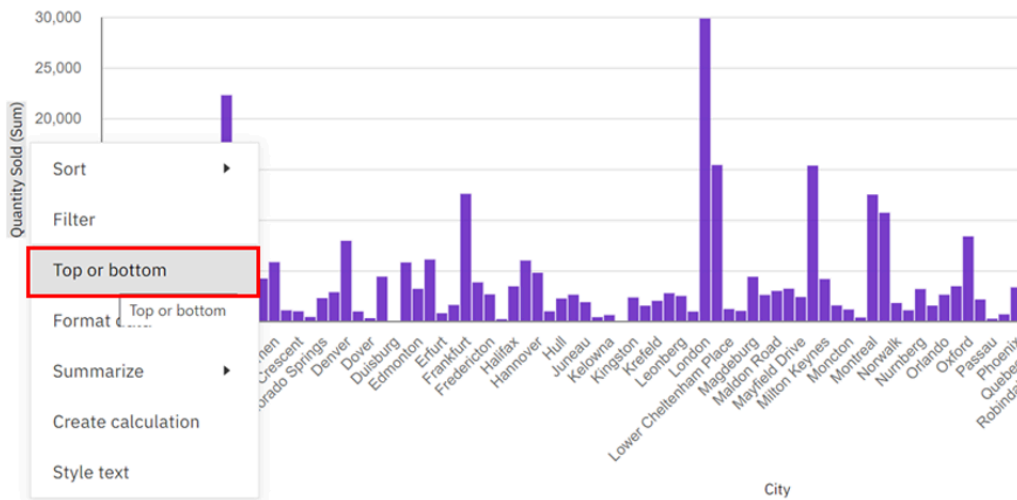


### Task C: Set Top/Bottom on a Visualization

1. From the data source panel, press the **CTRL** key and select **Quantity Sold** and **City**, and drag them both to the center of **Panel 4**, releasing them once you see the drop zone turn blue.
2. Click the chart in Panel 4 to bring it into focus and render the on-demand toolbar.
3. Click the **Change visualization** button in the on-demand toolbar (which will currently say **Map**), then expand **All visualizations**, if needed, and select **Column**.
4. In Panel 4, right-click the axis label **Quantity Sold (Sum)** down the left side of the chart and select **Top or bottom**.



Quantity Sold by City



5. Ensure the value of **Number of results** is set to **10**, then select **Top count**.

<
Top or bottom

Number of results

10

The value can be 1 - 100

Show

☒ Top count

☐ Bottom count

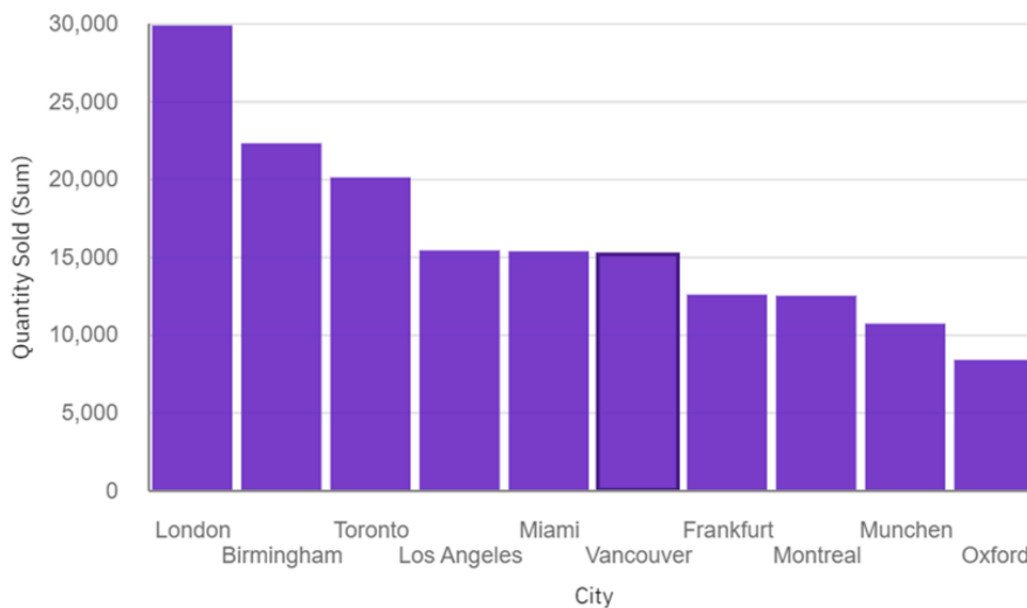
Clear

6. In the column chart in Panel 4, select the title of the visualization and change it to *Top 10 Quantity Sold by City*.

7. To save the current work in the dashboard, press **CTRL+S** or click **Save** in the main toolbar.

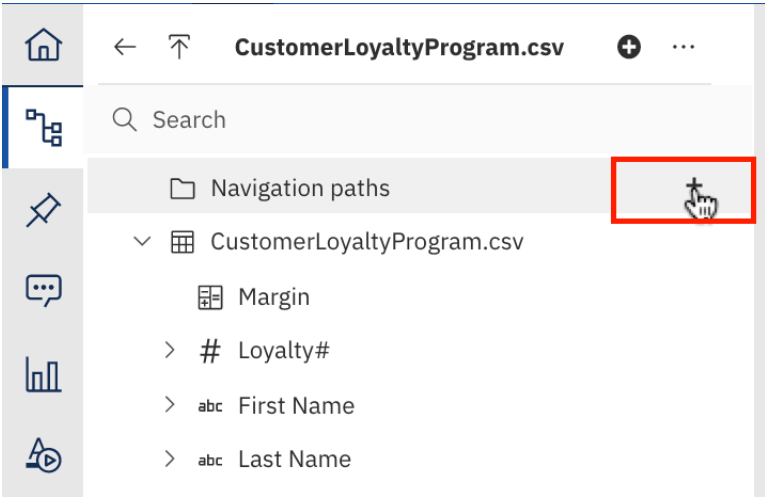
8. Your Panel 4 visualization should look similar to the one below:

Quantity Sold by City



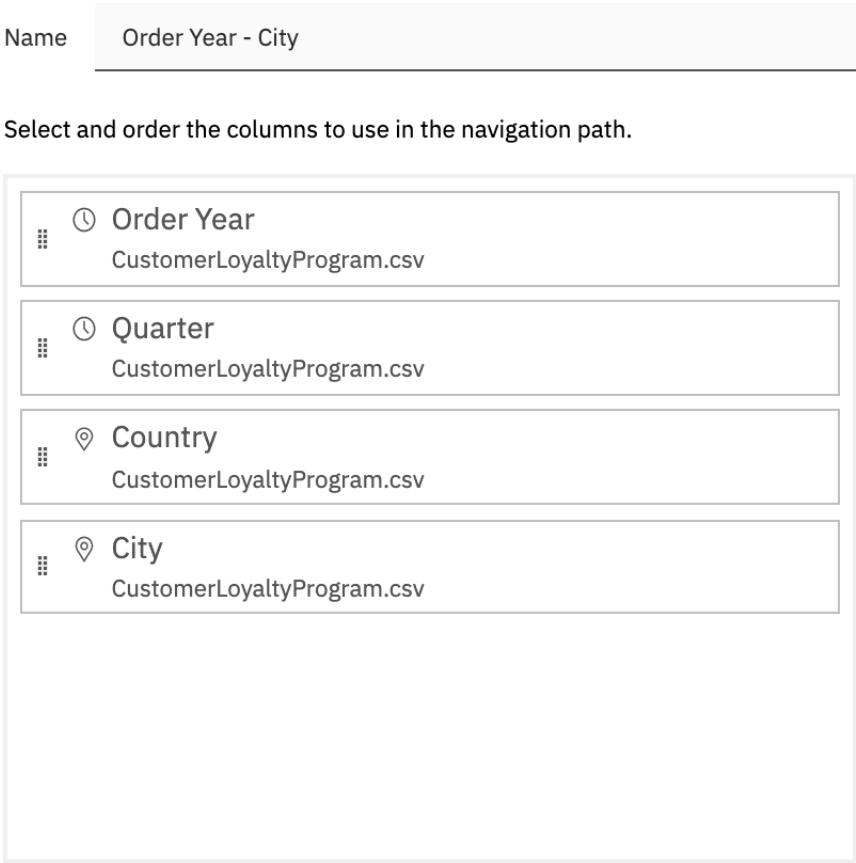
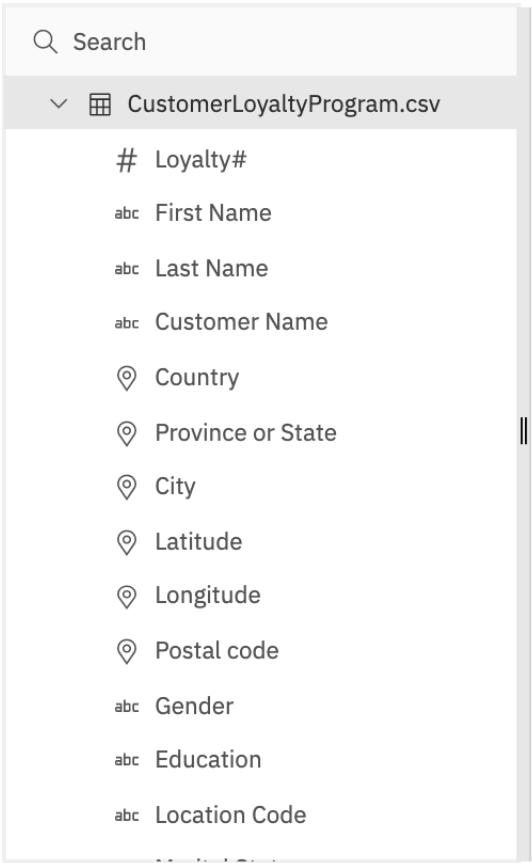
Task D: Create and leverage navigation paths

1. In the data source panel on the left, scroll to the top of the list and click the **plus sign** labeled **Create navigation path** to the right of **Navigation paths**.



2. In the **Create navigation path** dialog box, expand **CustomerLoyaltyProgram.csv**, if needed. Drag **Order Year**, **Quarter**, **Country**, and **City** sequentially to the right hand panel of the dialog box, maintaining the order (shown in the image below). Once done, click **OK**.

Create navigation path

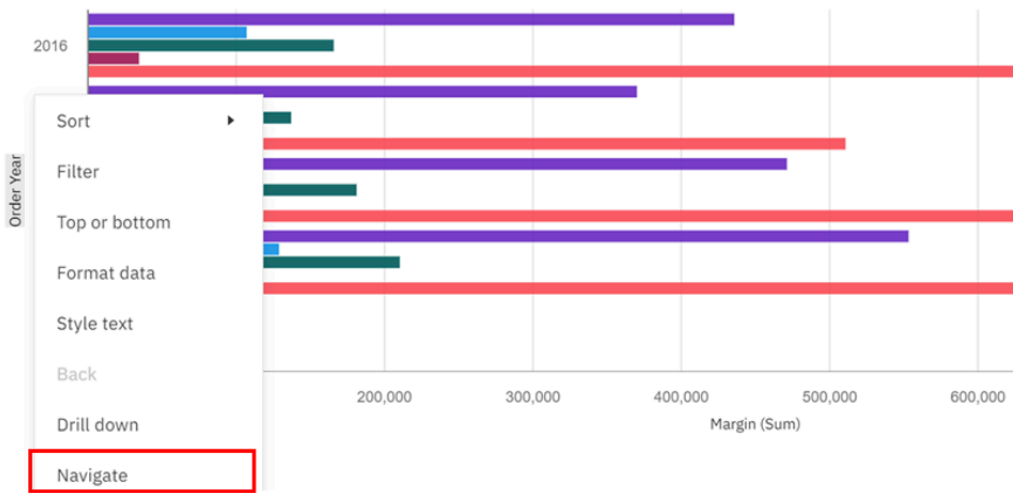


3. From the data source panel, press the **CTRL** key and select **Margin**, **Product Line**, and **Order Year** and drag them to the center of **Panel 5**, releasing them once you see the drop zone turn blue.

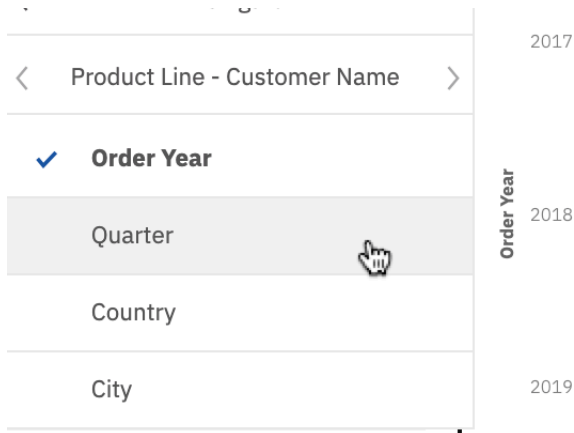
4. Click the line chart in Panel 5 to bring it into focus and render the on-demand toolbar.

5. Click the **Change visualization** button in the on-demand toolbar (which will currently say **Line**), then expand **All visualizations**, if needed, and select **Bar**.

6. In Panel 5, right-click the axis label **Order Year** down the left side of the chart, and select **Navigate**.

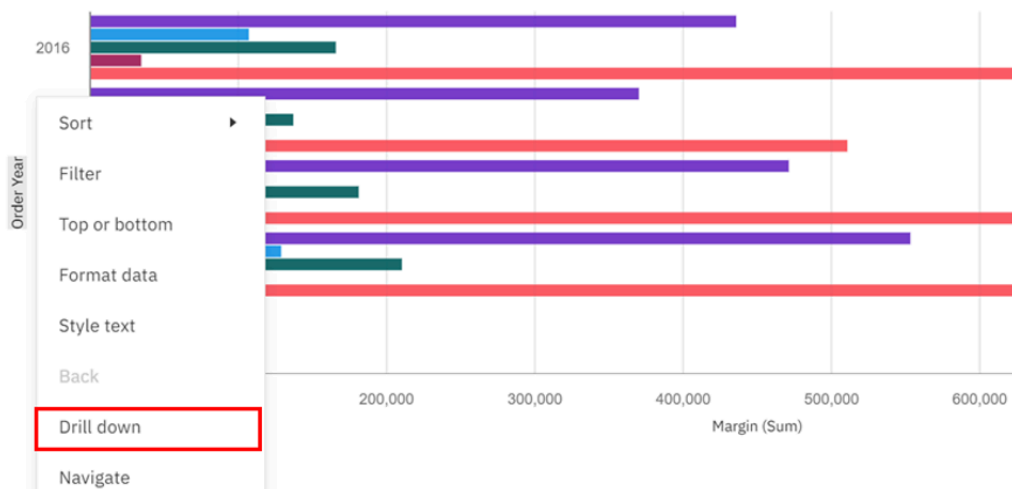


7. One by one, select the **Order Year**, **Quarter**, **Country**, and **City** options in the **Navigate** dialog box to view the different navigation paths and observe the resulting visualization in Panel 5 as you select each one. Lastly, keep the **Order Year** option selected.



8. Alternative interactive way with Drill down/back:

- In the bar chart in Panel 5, right-click the **2016 - Smart Electronics** bar of the bar chart, and select **Drill down**.



- Now right-click the **Q1 - Smart Electronics** bar of the bar chart, and select **Back**.



9. To save the current work in the dashboard, press **CTRL+S** or click **Save** in the main toolbar.

10. Your Panel 5 visualization should look similar to the one below:

### Margin by Order Year colored by Product Line



### Task E: Filter Data in the Current Tab

1. If required, click **Filters** in the **Dashboard Toolbar** to display the filters pane.

All tabs

Drag and drop data here to filter all tabs.

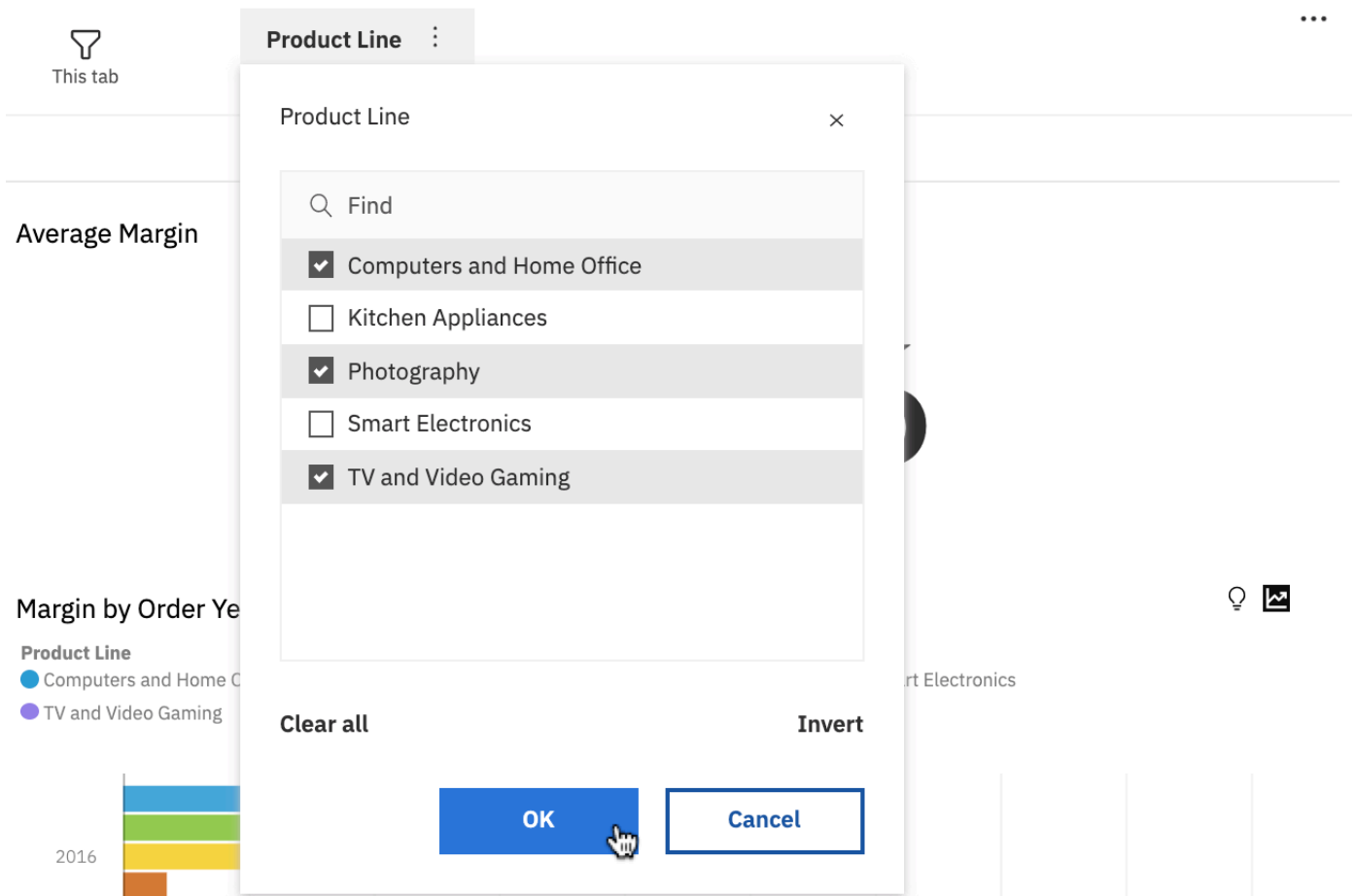
2. From the data source panel, select **Product Line** and drag it to the **This tab** filter panel on the right hand side.

This tab

Product Line

Drag and drop data here to filter this tab.

3. Click the **Product Line** filter tab of the **This tab** filter panel. Select **Computers and Home Office**, **Photography**, and **TV and Video Gaming**, then click **Done**.



Your final dashboard should look similar to the one below. To save the current work in the dashboard, press **CTRL+S** or click **Save** in the main toolbar.



Feel free to change the appearance and layout of the dashboard you have just created.

**Congratulations! You have completed this Lab**

**Author(s)**

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