



# 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

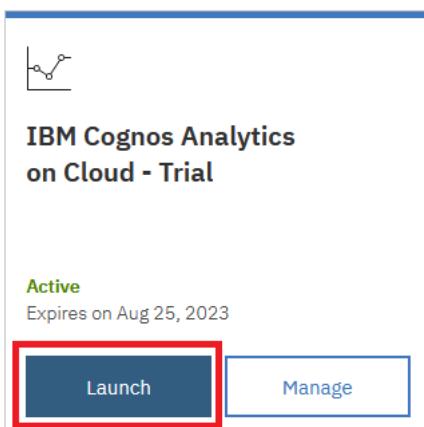
After completing this lab, you will be able to:

- 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/](#).
2. Enter your IBMid and password.
3. Scroll down and click **Launch**.



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

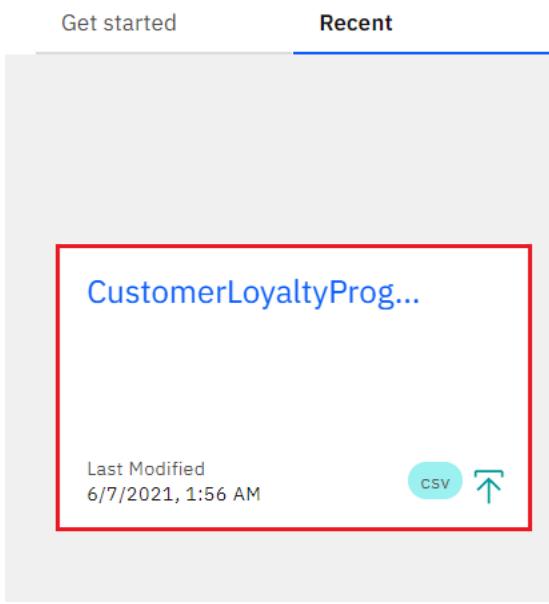
Get started

Recent

CustomerLoyaltyProg...

Last Modified  
6/7/2021, 1:56 AM

CSV 

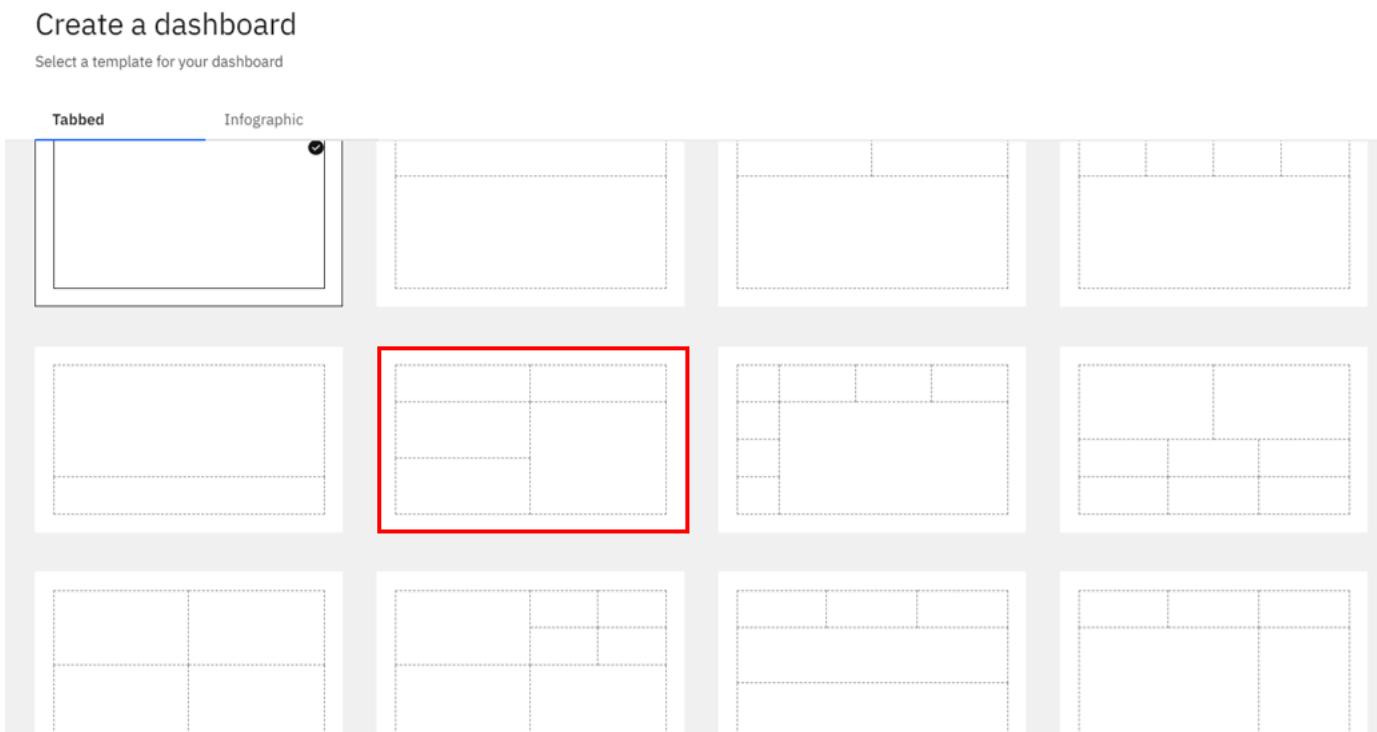


5. The template window will be displayed, allowing you to select the type of dashboard and the template style. Select the **Tabbed** dashboard style. This will allow you to have multiple pages for your dashboards. Select the *five-panel template*, then click **Create**.

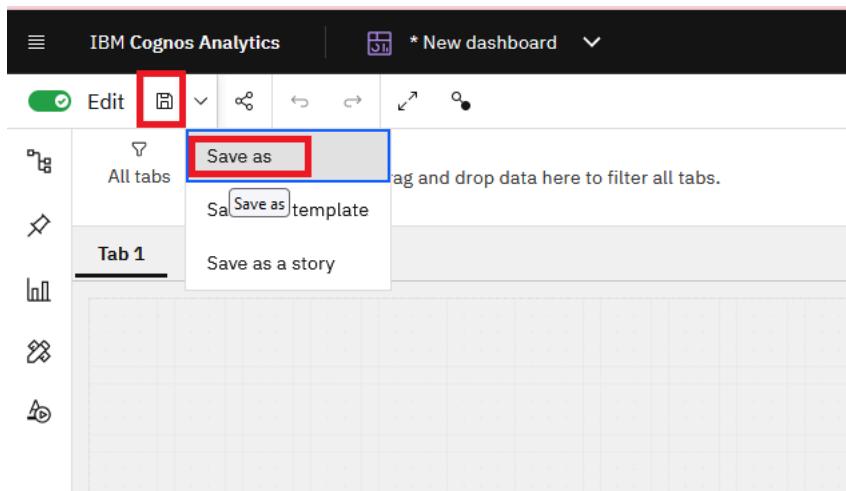
### Create a dashboard

Select a template for your dashboard

Tabbed Infographic



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.

\* New dashboard

Save as

Name: Advanced Dashboard

Selected destination: My content

My content Team content

Step 1 - Enter the name for the dashboard

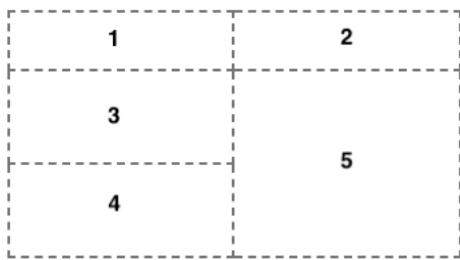
Step 2 - Select My content

Name	Type	Last Accessed
CLP_Dashboard	Dashboard	7/27/2023, 3:35 AM
CustomerLoyaltyProgram.csv	Uploaded file	7/26/2023, 5:22 AM

Step 3 - Click on Save

Cancel Save

8. As you build the dashboard, the location placement for visualization widgets in the dashboard template will be referenced using the following Panel numbers.



9. From the **Navigation** panel, select **Sources** to ensure the data source panel is open in the left pane.

10. From the data source panel, select **Revenue** and drag it to the center of **Panel 1**, releasing it once you see the drop zone turn blue.

IBM Cognos Analytics Advanced Dashboard

Edit    Analytics

Selected sources / CustomerLoyaltyProgram.csv

Search

- Quarter
- MonthsAsMember
- LoyaltyStatus
- Product Line
- Coupon Response
- Count
- Quantity Sold
- Unit Sale Price
- Unit Cost
- Revenue**
- Customer ...ime Value
- Loyalty Count

All tabs Drag and drop data here to filter all tabs. This tab Drag and

Tab 1

Revenue

11. Click the summary chart in Panel 1 to bring it into focus. From the on-demand toolbar that appears in the main toolbar, click **Summarize**, and then select **Average**.

The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Selected sources' panel displays a list of fields from 'CustomerLoyaltyProgram.csv', including Quarter, MonthsAsMember, LoyaltyStatus, Product Line, Coupon Response, Count, Quantity Sold, Unit Sale Price, Unit Cost, Revenue, Customer ...ime Value, and Loyalty Count. In the center, a summary chart titled 'Revenue' is being configured. A context menu is open over the chart, with the 'Average' option highlighted. Other options in the menu include Sum, Minimum, Maximum, Count, Count distinct, and Auto (Sum). The top navigation bar shows 'Edit', 'Summary', and 'Analytics'.

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.

The screenshot shows the IBM Cognos Analytics interface with the 'Widgets' panel open. The 'Shapes' section is selected, and a 'Money coin' icon is highlighted with a red box. A red arrow points from this icon towards a visualization in the main workspace. The visualization is titled 'Average Revenue' and contains the value '2.71K'. A blue circle with a white dollar sign (\$) is placed over the '2.71K' text. The top navigation bar shows 'Edit', 'Summary', and 'Analytics'.

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



### 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**.

A screenshot of the Cognos Analytics interface. On the left is a vertical toolbar with icons for Home, Sources (highlighted with a red box), Navigation, Components, and Help. The main area shows a 'Sources' panel with a title bar 'CustomerLoyaltyProgram.csv' and tabs for 'All tabs' and 'Tab 1'. Below the title bar, there's a search bar and a 'Navigation paths' section. Under 'Navigation paths', the 'CustomerLoyaltyProgram.csv' item is selected and highlighted with a red box. A context menu is open over this item, with the 'Calculation...' option also highlighted with a red box and a cursor icon pointing at it. Other options in the menu include 'Filter...', 'Refresh members', and 'Properties...'. The overall interface has a light gray background with blue and black text.

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**.

IBM Cognos Analytics Advanced Dashboard

### Create calculation

Name Margin

Components Expression

Unit Sale Price

Information

Unit Sale Price - Unit Cost

- 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.
- Right-click the margin chart in Panel 2, point to **Summarize**, and then select **Average**.
- From the data source panel, right-click on **Margin** and click **Format data**.

IBM Cognos Analytics \* Advanced Dashboard

Edit Summary Analytics ↗

Selected sources /

CustomerLoyaltyProgram.csv

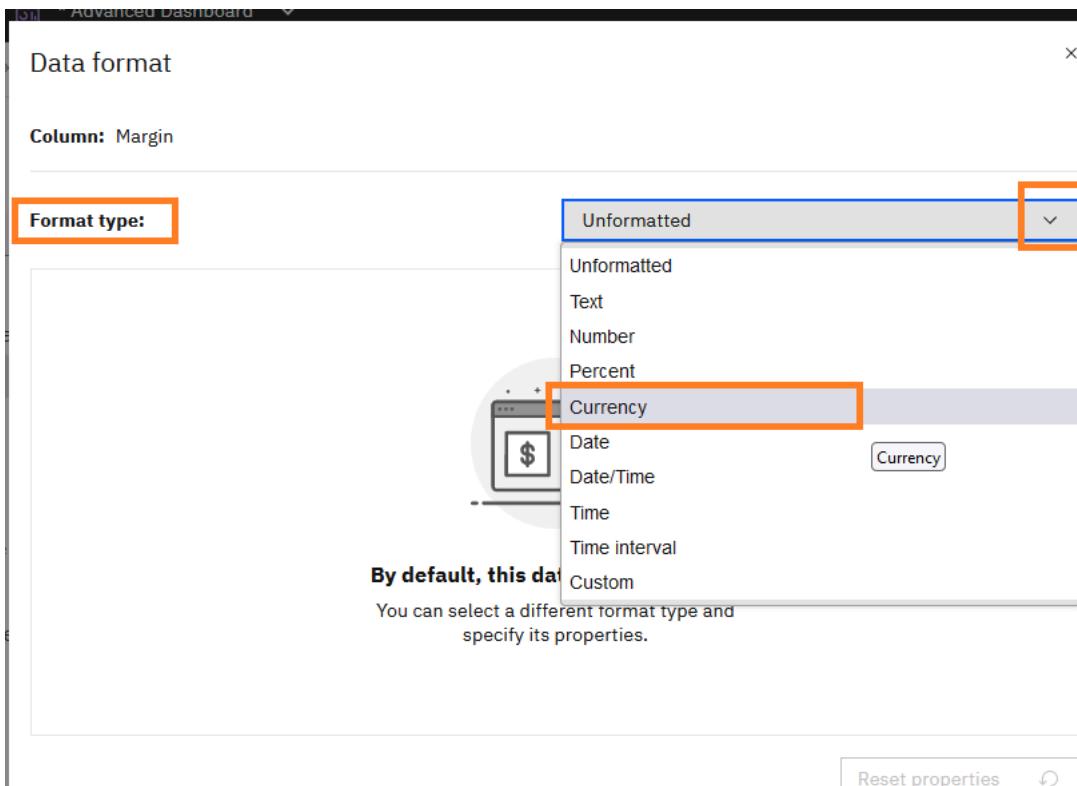
Margin

Average Revenue

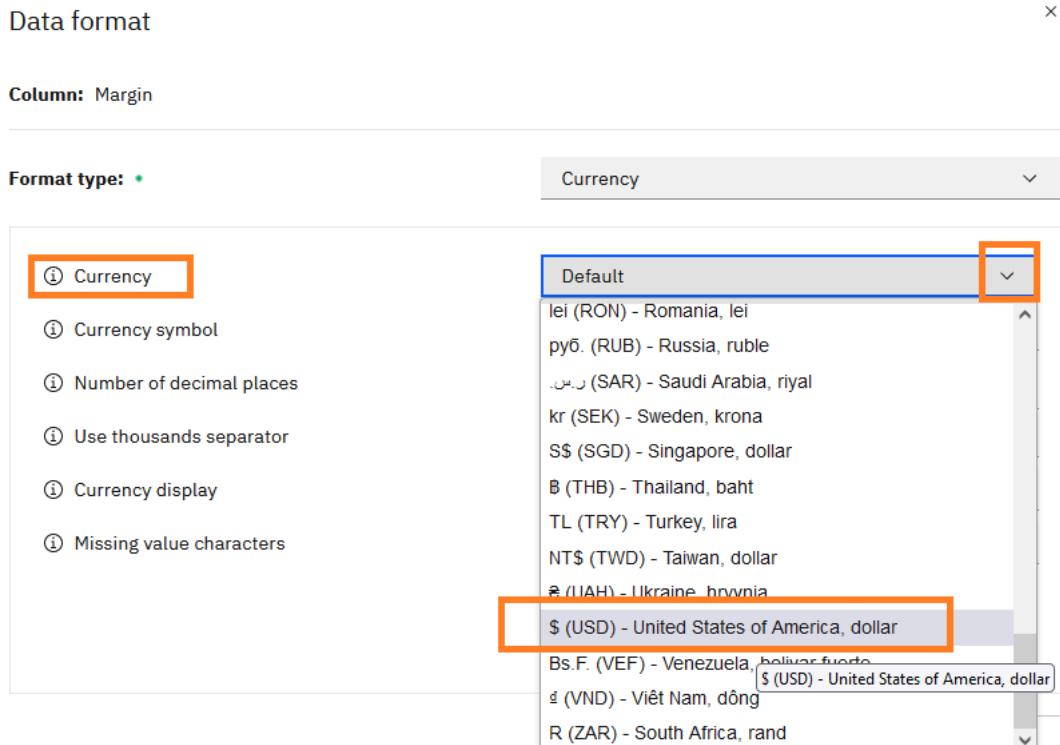
\$ = 100 Revenue

Filter... Create calculation... Create data group... Edit calculation... Remove Format data... Properties...

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



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



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

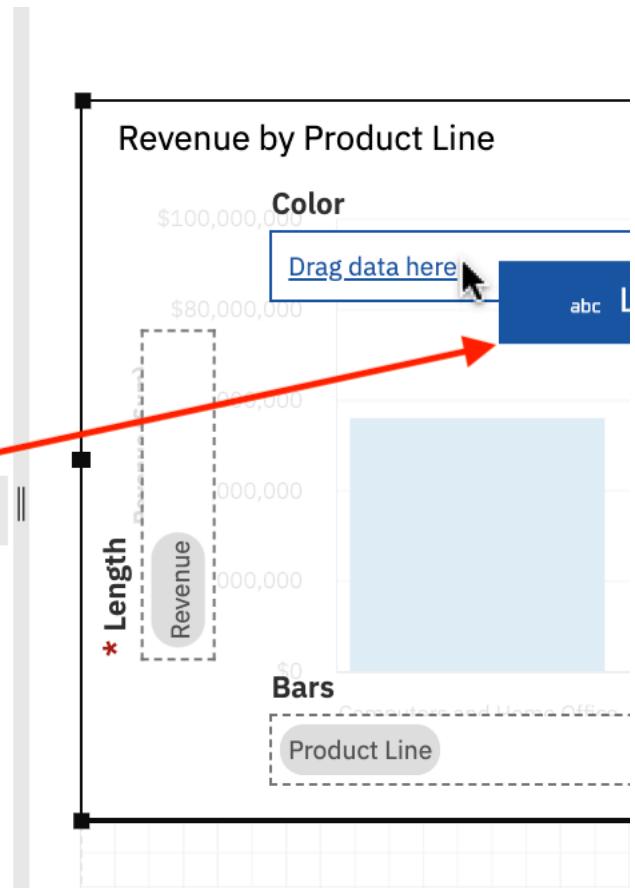
# \$84.36

Margin

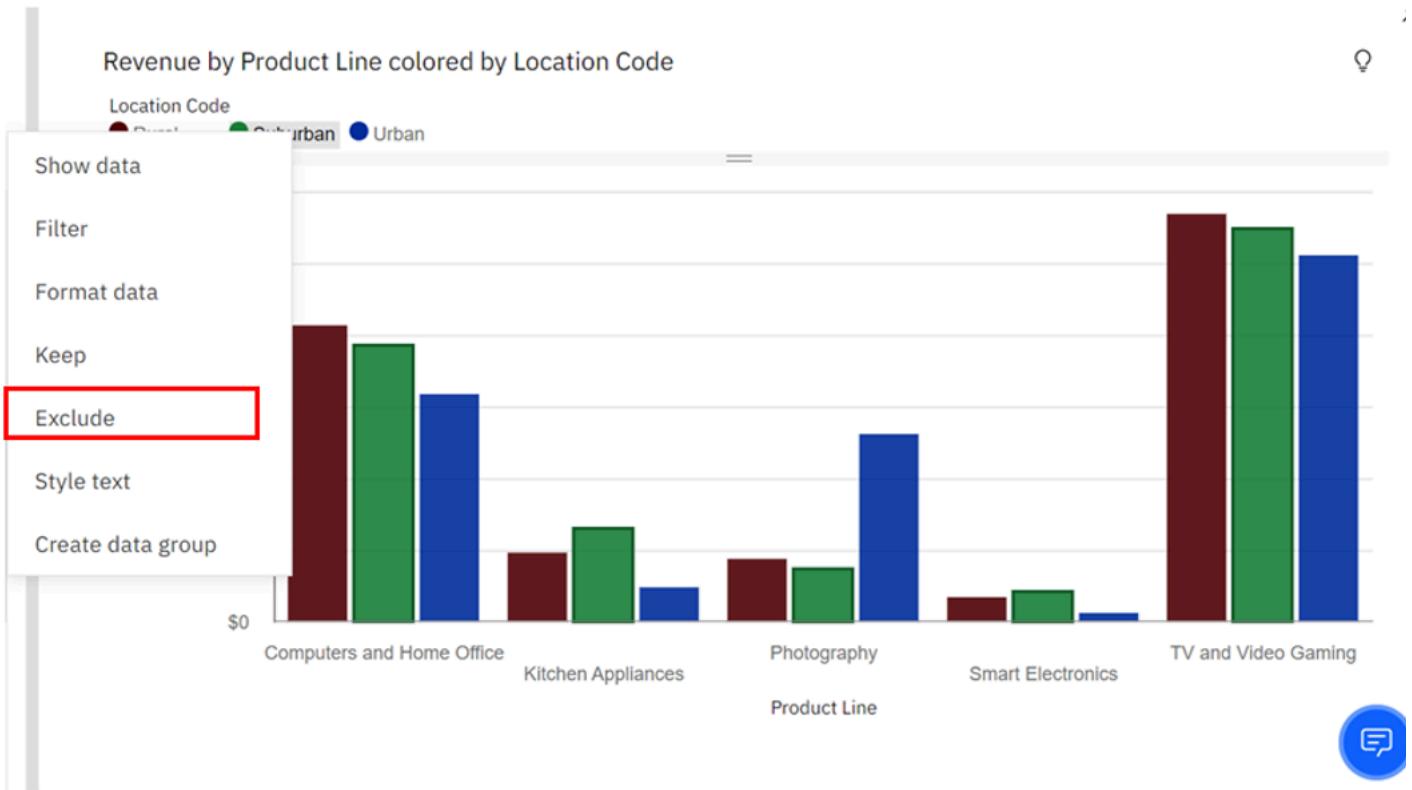
### Task B: Keep/Exclude Data Points from a Visualization

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**.

- > Ⓜ Province or State
- > Ⓜ City
- Ⓜ Latitude
- Ⓜ Longitude
- > Ⓜ Postal code
- > abc Gender
- > abc Education
- > abc Location Code
- ⠇ Income
- > abc Marital Status
- > Ⓜ Order Year
- > Ⓜ Quarter
- ⠇ MonthsAsMember

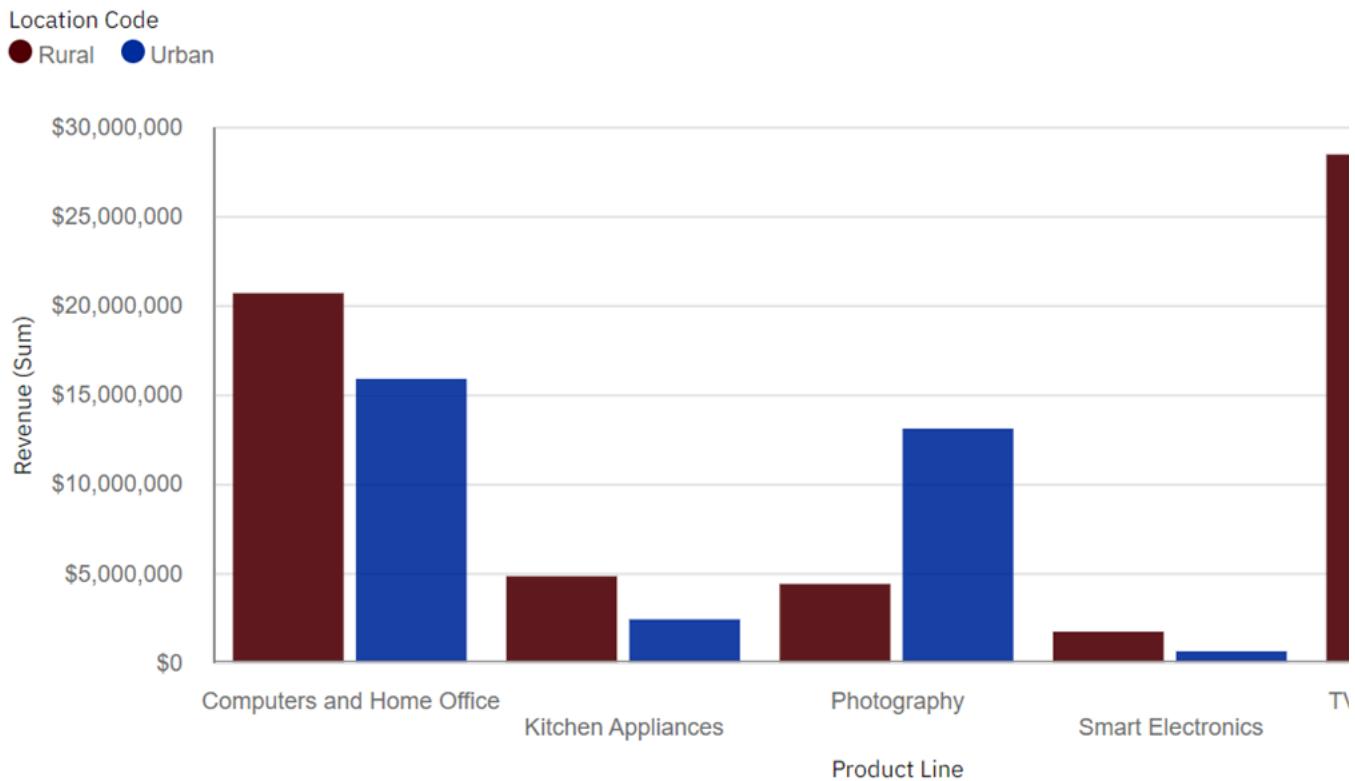


3. Right-click the **Suburban** data point in the Panel 3 visualization, and select **Exclude**.



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:

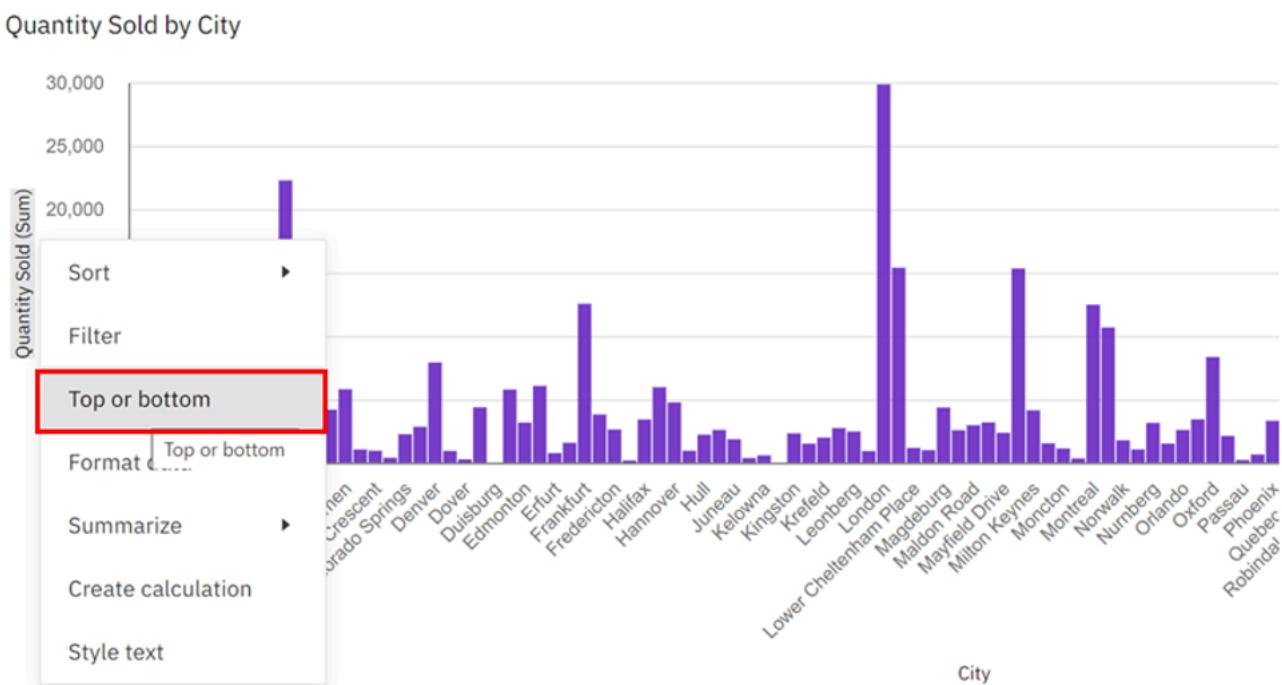
Revenue by Product Line colored by Location Code



### 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**.



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

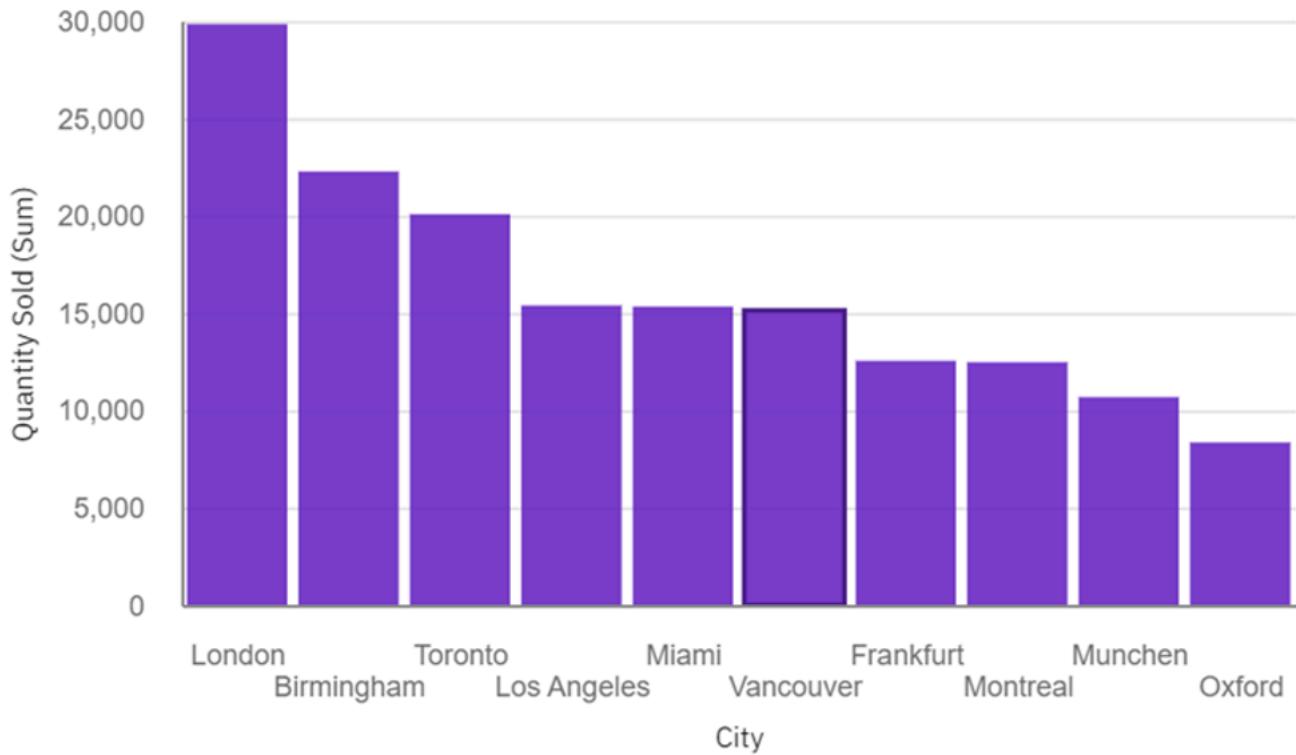
Top count (selected)

Bottom count

Clear

- In the column chart in Panel 4, select the title of the visualization and change it to *Top 10 Quantity Sold by City*.
  - To save the current work in the dashboard, press **CTRL+S** or click **Save** in the main toolbar.
  - 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**.

The screenshot shows the Power BI Data Source panel. On the left, there are icons for Home, Back, Forward, Refresh, and More. The main area displays the file 'CustomerLoyaltyProgram.csv'. Below it, under 'Navigation paths', there is a tree view of fields: 'Margin' (under CustomerLoyaltyProgram.csv), '# Loyalty#', 'First Name', and 'Last Name'. The 'Create navigation path' button is located to the right of the 'Navigation paths' folder.

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

The screenshot shows the Tableau interface with two panels. On the left is the Data Source panel for 'CustomerLoyaltyProgram.csv'. It includes a search bar at the top, followed by a tree view of fields. The 'Order Year' field is expanded, showing its children: 'Order Year - City', 'Quarter', 'Country', and 'City'. On the right is the Navigation Path panel, which lists the selected columns: 'Order Year - City', 'Quarter', 'Country', and 'City'. A large blue rectangular button is located at the bottom right of the interface.

Search

CustomerLoyaltyProgram.csv

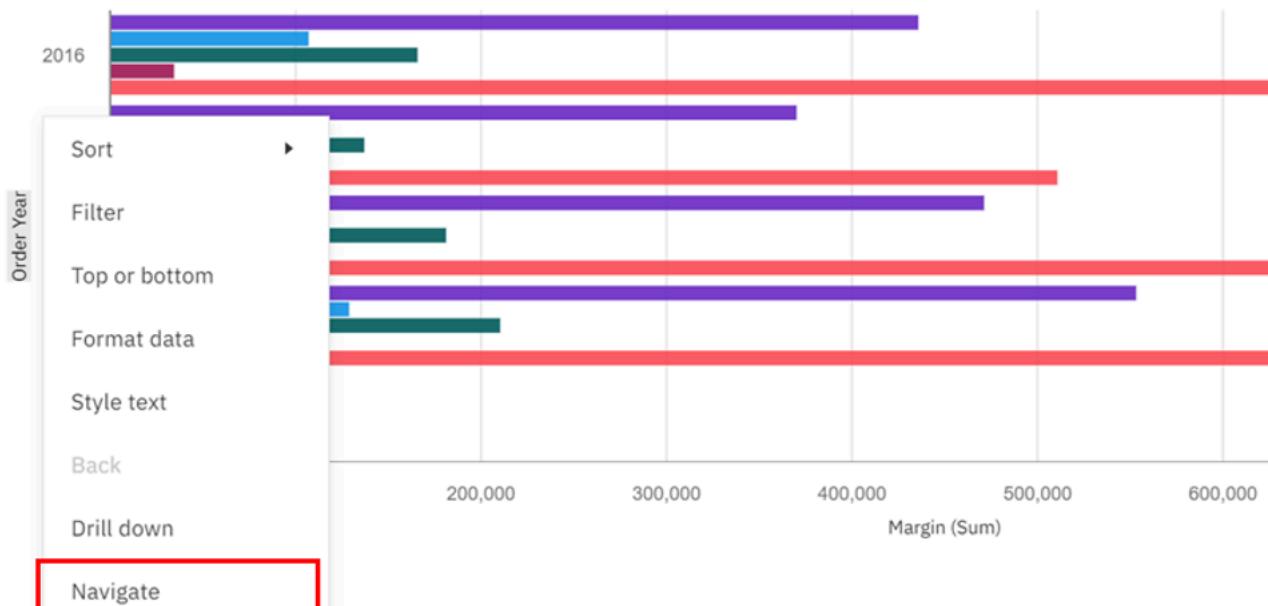
- # Loyalty#
- abc First Name
- abc Last Name
- abc Customer Name
- ⌚ Country
- ⌚ Province or State
- ⌚ City
- ⌚ Latitude
- ⌚ Longitude
- ⌚ Postal code
- abc Gender
- abc Education
- abc Location Code

Name Order Year - City

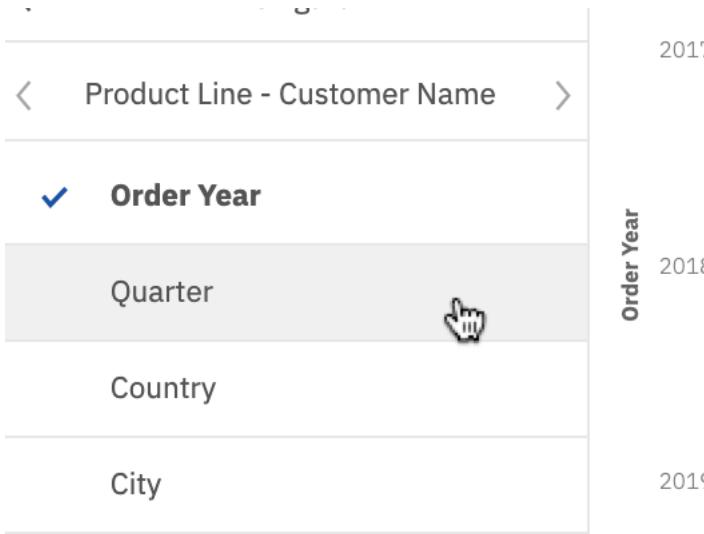
Select and order the columns to use in the navigation path

- ⌚ Order Year  
CustomerLoyaltyProgram.csv
- ⌚ Quarter  
CustomerLoyaltyProgram.csv
- ⌚ Country  
CustomerLoyaltyProgram.csv
- ⌚ City  
CustomerLoyaltyProgram.csv

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**.

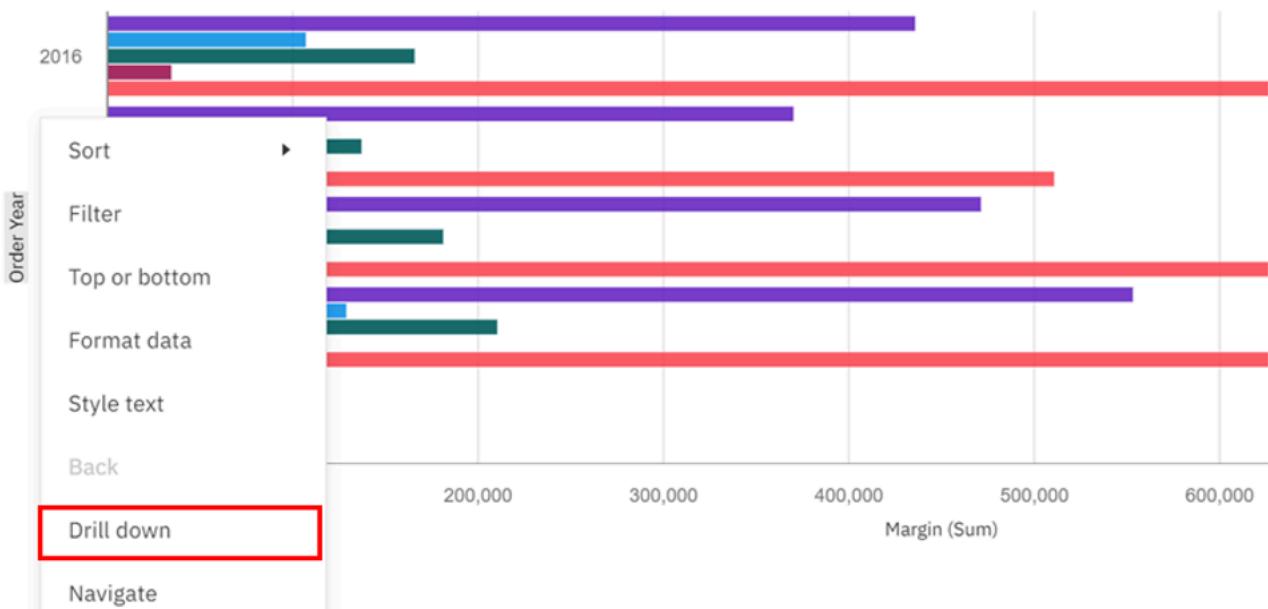


7. One by one, select the **Order Year**, **Quarter**, **Country**, and **City** options in the **Navigate** dialog box to view the different navigation paths and observe the resulting visualization in Panel 5 as you select each one. Lastly, keep the **Order Year** option selected.



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**.



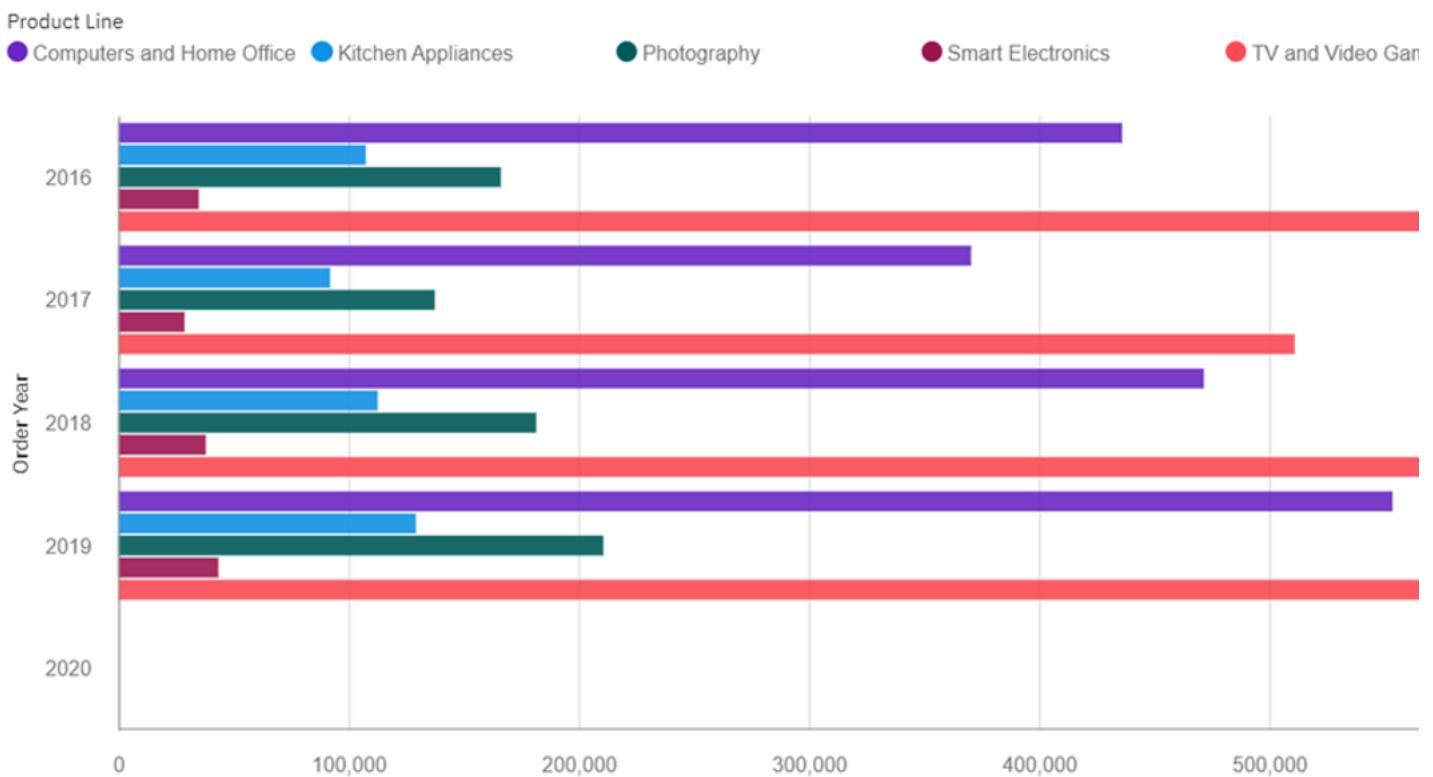
- Now right-click the **Q1 - Smart Electronics** bar of the bar chart, and select **Back**.



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

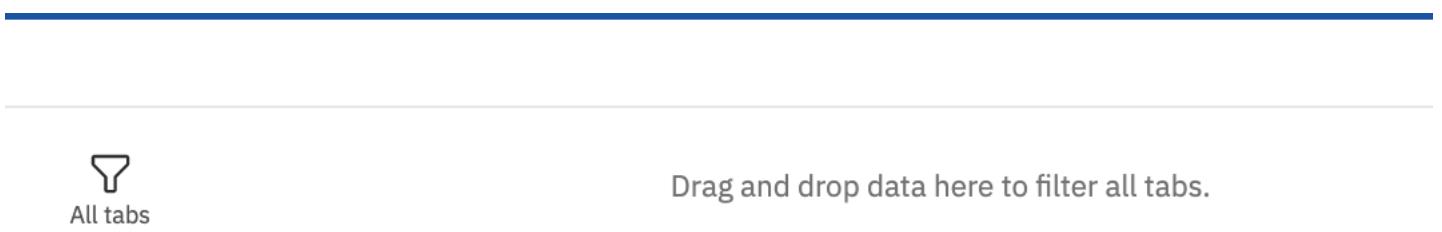
10. Your Panel 5 visualization should look similar to the one below:

**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.



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



abc **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**.

The screenshot shows a Tableau dashboard with two main sections. On the left, there's a bar chart titled "Margin by Order Year" for 2016, with categories for Computers and Home Office, Photography, TV and Video Gaming, and Smart Electronics. Below the chart is a legend for "Product Line". On the right, a "Product Line" filter panel is open, showing checkboxes for various product categories. The categories "Computers and Home Office", "Photography", and "TV and Video Gaming" are checked. At the bottom of the filter panel are "OK" and "Cancel" buttons, with a cursor pointing at the "OK" button.

Average Margin

Margin by Order Year

Product Line

- Computers and Home Office
- Kitchen Appliances
- Photography
- Smart Electronics
- TV and Video Gaming

Clear all      Invert

OK      Cancel

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.

Revenue

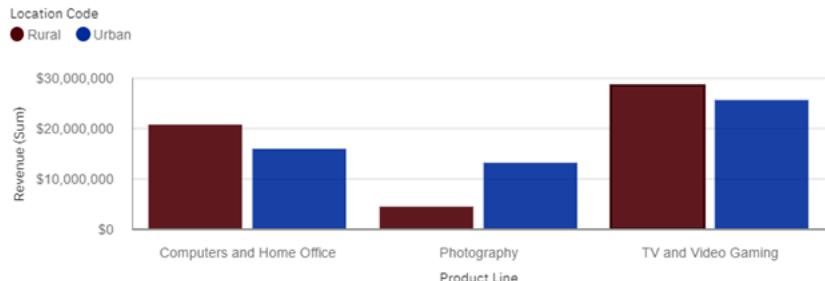


Margin

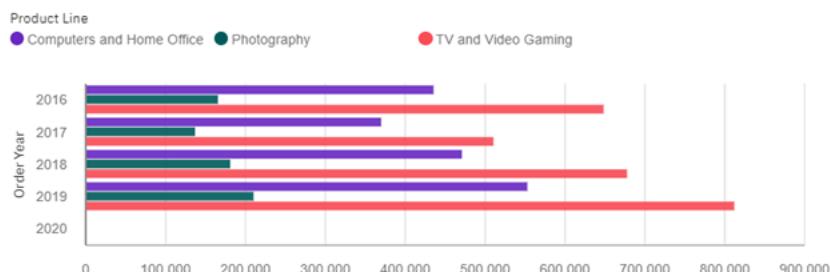
\$93.29

Margin

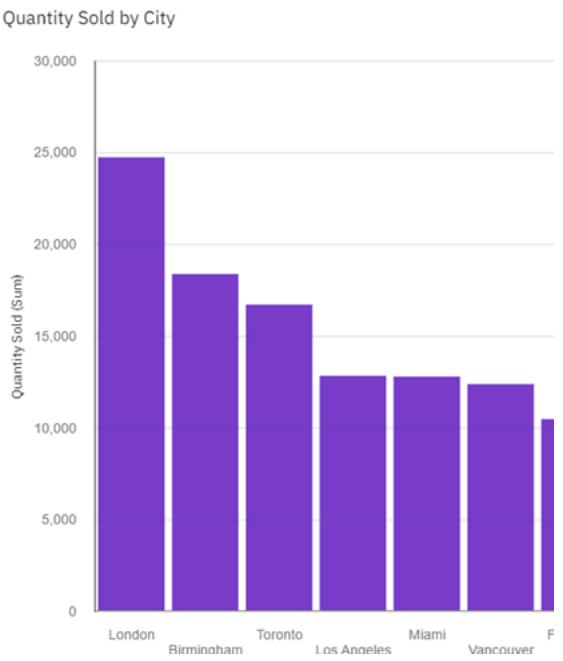
Revenue by Product Line colored by Location Code



Margin by Order Year colored by Product Line



Quantity Sold by City



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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