

# Hands-on Lab: Advanced Dashboard Capabilities in Google Looker Studio

Estimated time needed: 60 minutes

## Purpose of the lab:

This hands-on lab focuses on enhancing skills in utilizing advanced features of Google Looker Studio to create dynamic and interactive dashboards. It covers creating calculated fields, manipulating data points within visualizations, applying filters, and constructing navigation paths. This lab provides hands-on experience aimed at leveraging Google Looker Studio for complex data analysis and visualization tasks.

## Software used in this lab:

Google Looker Studio, available for free.

## Data set used in this lab:

Use data set [CustomerLoyaltyProgram.csv](#).

## Objectives:

1. Start a new dashboard
2. Use advanced Google Looker Studio dashboard capabilities
3. Create a bar chart using Drill Down
4. Create another bar chart to implement top/bottom filtering in visualizations
5. Create a horizontal bar chart using Drill Down and a calculated field
6. Create a pie chart
7. Add headings to all the created charts in the dashboard
8. Build an interactive dashboard
9. Save the dashboard and download as a PDF

## Step-by-step instructions

### 1. Starting a new dashboard

a. Sign in to Google Looker Studio:

- o Go to Google Looker Studio and sign in with your Google account.

b. Access the data set

- o Here you are going to use the same data set that you have used in the previous lab and follow the same steps to upload the file.
- o In the top left corner, click **Create**, then select **Data source**.
- o In the **Search** box, type *file upload*, then click the **File Upload** connector.
- o Click the **CLICK TO UPLOAD FILES** button, select the **CustomerLoyaltyProgram.csv** file, and click **Open**.
- o Once the data is uploaded, click **CONNECT**.



# CustomerLoyaltyProgram .csv

Scope: Reusable

Data credentials: Shubhra Das

[← EDIT CONNECTION](#) | [FILTER BY EMAIL](#)

Field

Type

//

## DIMENSIONS (28)

City	⋮	ABC	Text
Count	⋮	123	Number
Country	⋮		Country
Coupon Response	⋮	ABC	Text
Customer Lifetime Value	⋮	123	Number
Customer Name	⋮	ABC	Text
Education	⋮	ABC	Text
First Name	⋮	ABC	Text
Gender	⋮	ABC	Text
Income	⋮	123	Number
Last Name	⋮	ABC	Text
Latitude	⋮	123	Number
Location Code	⋮	ABC	Text

## REFRESH FIELDS

c. Create and add the report

- To start creating the report, click **CREATE REPORT**.
- In the pop-up dialog box, click **ADD TO REPORT**.



# Untitled Report

File View Page Help

↶ ↷ | ↺ | 🔎 ▾ | + Add page | E+ Add data | ⚡ Add a chart ▾

You are ab

CustomerLe

Note that **Report** dimensions and

Don't show

d. Save the new report

- Click the untitled report at the top and rename it to *Advanced Dashboard*.
- Save the new report.

## 2. Working with advanced Google Looker Studio dashboard capabilities

a. Create calculations

- In your Data Source, click **+ ADD A FIELD**.
- Then select **Add calculated field**.

Reset

Share

View



Theme and layout

Pause updates



Chart



Data

SETUP

STYLE

Data source



CustomerLoy...



BLEND DATA



Date Range Dimension



Add dimension

Dimension



City

Drill down



Breakdown Dimension



Add dimension

Metric



Quantity Sold



Add metric

Optional metrics



Search

CustomerLoyaltyProgram ...

Latitude

Location Code

Longitude

Loyalty Count

Loyalty#

LoyaltyStatus

Margin

Marital Status

MonthsAsMember

Order Year

Postal code

Product Line

Add calculated field

Add group

+ Add a field

+ Add a parameter

+ Add Data

- Define the calculation for Margin as **Unit Sale Price - Unit Cost**.

[← ALL FIELDS](#)

Available Fields

- 123 Revenue
- 123 Unit Cost
- 123 Unit Sale Price
- 123 Record Count

+

Field Name

Margin

Formula

1	Unit Sale Price	-
---	-----------------	---

- o Name the field **Margin** and save it.
- b. Set up filters and control widgets
  - o Add filter controls.
  - o From the toolbar, select **Add a control** and choose a drop-down list or slider based on the type of filter you need, such as **City**.

The screenshot shows a dashboard builder interface with a toolbar at the top featuring 'Reset', 'Share', and an eye icon. Below the toolbar is a control panel with a 'Add a control' button and various icons. To the right is a configuration sidebar divided into sections: 'Control', 'SETUP', 'STYLE', 'Data source', 'Date Range Dimension', 'Control field', 'Metric', and several checkboxes.

- Control:** Drop-down list, Fixed-size list, Input box, Advanced filter, Slider, Checkbox, Preset filter, Date range control, Data control, Dimension control, Button.
- SETUP:** Data source (CustomerLoy...), Blend data, Add dimension.
- STYLE:** (not visible in screenshot)
- Data source:** CustomerLoy...
- Date Range Dimension:** Add dimension.
- Control field:** ABC City (highlighted in green).
- Metric:** SUM Quantity Sold (highlighted in blue).
- Checkboxes:** Default selection (value1, value2, v), Show values, Compact numbers.

- c. Position the filter control on the dashboard.
- c. Add score cards
- Now you will include two scorecards to display **Margin** and **Revenue** on the top of your dashboard.
  - In the toolbar, click **Add a chart**, and select **Scorecard**.
  - Move it above the line chart visualization and to the left side of the canvas.
  - And pick **Margin** to be displayed on this scorecard.
  - In the Chart – Set Up area, click the left side of the **Margin** field and then you will see the following dialog box.
  - Select the data type and aggregation.

[Reset](#)[Share](#)[View](#)

Control ▾



Theme and layout

## AVG Margin

Name

Data Type

Currency (USD - US Dollar (\$))

Display Format

Default

Aggregation

 Sum Average Count Count Distinct Min Max Median Standard Deviation Variance

Comparison calculation

None

Running calculation

Running average



Data

Search

CustomerLo

Latitude

Location Co

Longitude

Loyalty Cou

Loyalty#

LoyaltyStatu

Margin

Marital Stat

MonthsAsM

Order Year

Postal code

Product Lin

Province or

Quantity Sol

Quarter

Revenue

Unit Cost

Add a field

Add a parar

Add Data

- You can change the size and position as you like.
- Use the **STYLE** tab in the scorecard chart's **Properties** pane to change the color and change the font size to **28pt** and then select **Background and Border**.

The screenshot shows the Scorecard app's interface. At the top, there are buttons for 'Share' and 'View'. Below the header, a section titled 'Theme and layout' includes a 'Pause updates' button. The main area has a 'Chart' tab selected in a style panel on the left, which includes sections for 'SETUP' and 'STYLE'.

**Style Panel (Left):**

- Text:** Total 1,168
- Font:** Chart (dropdown), Roboto (selected)
- Text Size:** 28px
- Text Weight:** A (dropdown)
- Text Color:** Hide Metric Name (checkbox)
- Metric Name:** Metric name (dropdown) with three icons
- Metric Value:** Metric value (dropdown) with three icons
- Comparison:** Comparison (dropdown) with three icons
- Background and Border:** Background and Border (dropdown) with a color swatch and a border thickness of 0px

**Data Panel (Right):**

- Data:** Search bar and a list of fields:
  - CustomerLoyaltyProgram ... (highlighted with an arrow)
  - Latitude
  - Location Code
  - Longitude
  - Loyalty Count
  - Loyalty#
  - LoyaltyStatus
  - Margin
  - Marital Status
  - MonthsAsMember
  - Order Year
  - Postal code
  - Product Line
  - Province or State (highlighted in green)
  - Quantity Sold
  - Quarter (highlighted in gray)
  - Revenue
  - Unit Cost
- Properties:** (button)
- Filter bar:** (button)

- Now you will add the second scorecard chart above the line chart.
- In the toolbar, click **Add a chart**, and select **Scorecard**.
- Place it to the right of the **Revenue** scorecard chart.
- Select the data type and aggregation.
- Then use the same size and style as **Margin**.

# Advanced Dashboard

File Edit View Insert Page Arrange Resource Help

Back Forward Refresh Search Add page Add data Add a chart

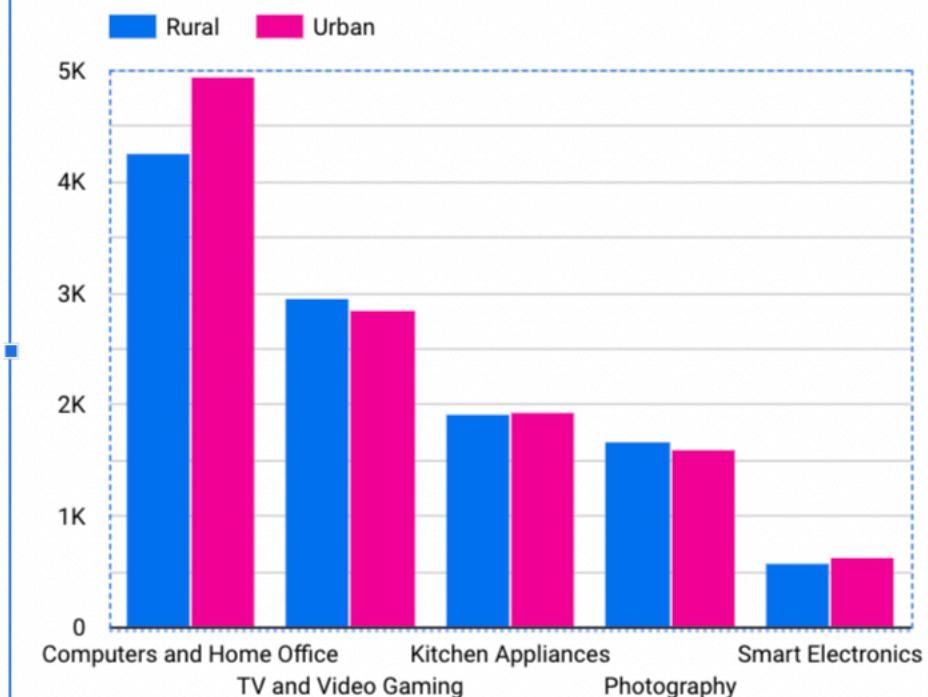


+ Add quick filter

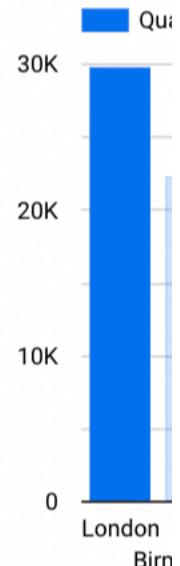
City London (1)

Margin  
\$85.76

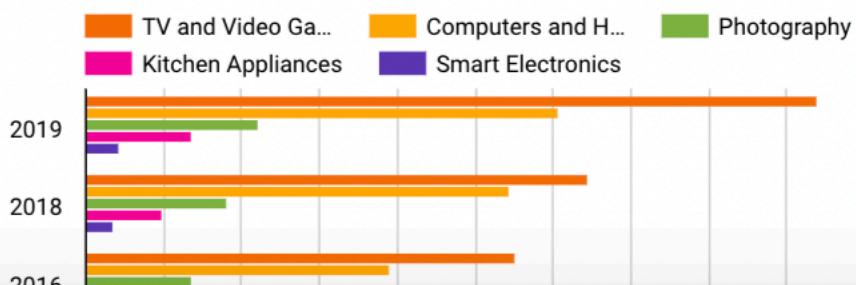
Revenue by product Line Coloured By Location Code



Total



Margin By Order year Coloured By Product Line



Total



### 3. Creating a bar chart

a. Create a bar chart (Revenue By Product Line By Location Code) using Drill Down

- o Add a bar chart to your dashboard.
- o Then drag the **Product Line** field to **Dimensions** (in the SET UP area)
- o Then drag the **Location Code** field to **Breakdown Dimension**
- o Then drag the **Revenue** field to **Metric** (change it to Average)



# Advanced Dashboard

File Edit View Insert Page Arrange Resource Help

↶ ↷ | ⌂ | 🔎 | ⚡ Add page | ⚡+ Add data | ⚡+ Add a chart



+ Add quick filter

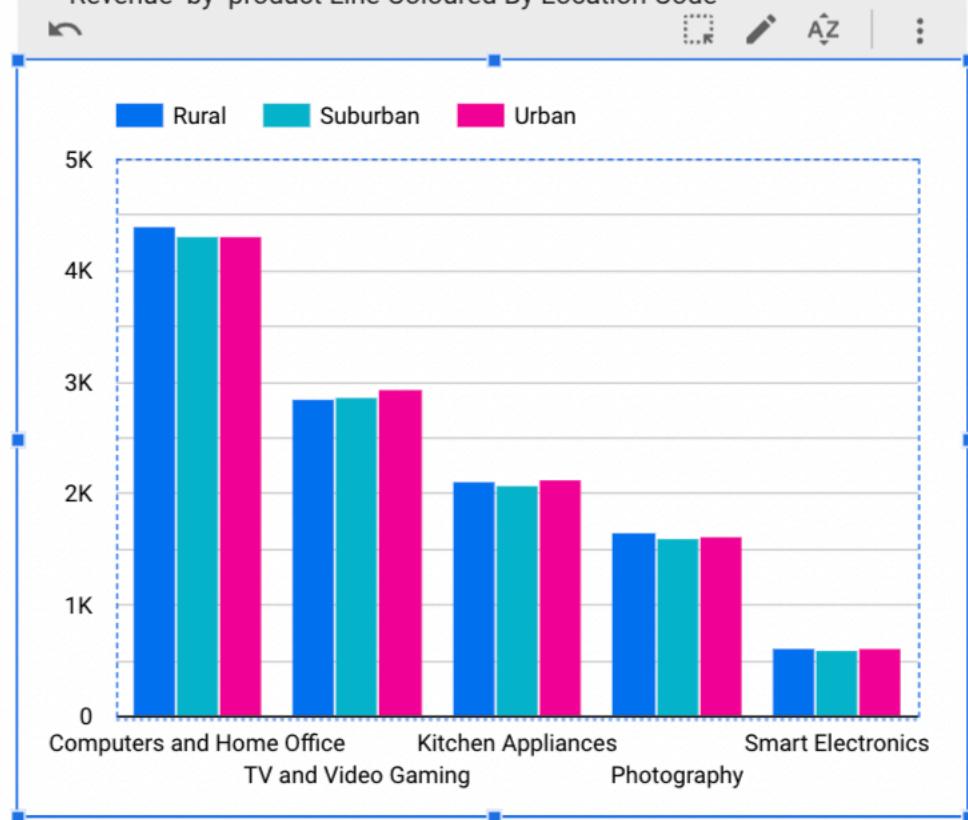
Margin

\$84.34

Revenue

\$2,709.05

Revenue by product Line Coloured By Location Code



b. Exclude data points from the visualization

- Add a filter in the **Location Code**



# Advanced Dashboard

File Edit View Insert Page Arrange Resource Help

↶ ↷ | ⌂ | 🔎 | ⚡ Add page | ⚡ Add data | ⚡ Add a chart



+ Add quick filter

Margin

\$84.34

Revenue

\$2,709.05

Revenue by product Line Coloured By Location Code

↶ ⌂ ⚡ A-Z ...

Create Filter

Name



CustomerLoyaltyProgram.cs

Exclude

ABC Location Code

Equ

AND

This filter has 1 clause

- And exclude Suburban



# Advanced Dashboard

File Edit View Insert Page Arrange Resource Help

↶ ↷ | ↗ | 🔎 ↴ | ⌂ Add page | ⌂+ Add data | ⚪+ Add a chart ↴



+ Add quick filter

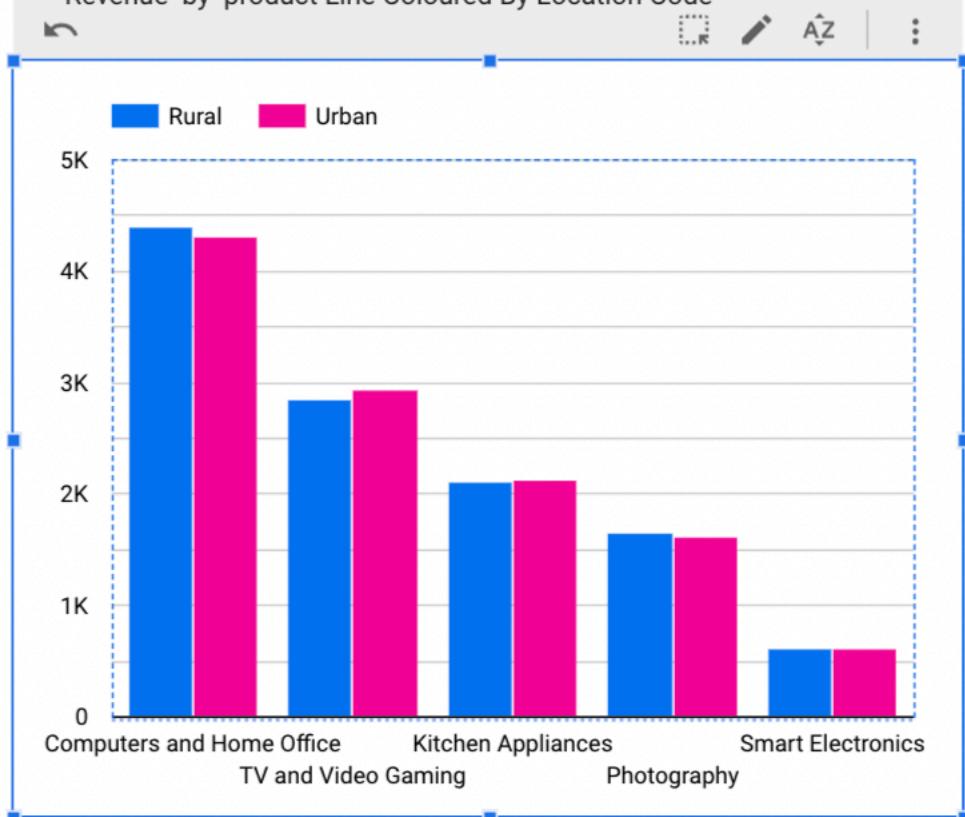
Margin

\$84.34

Revenue

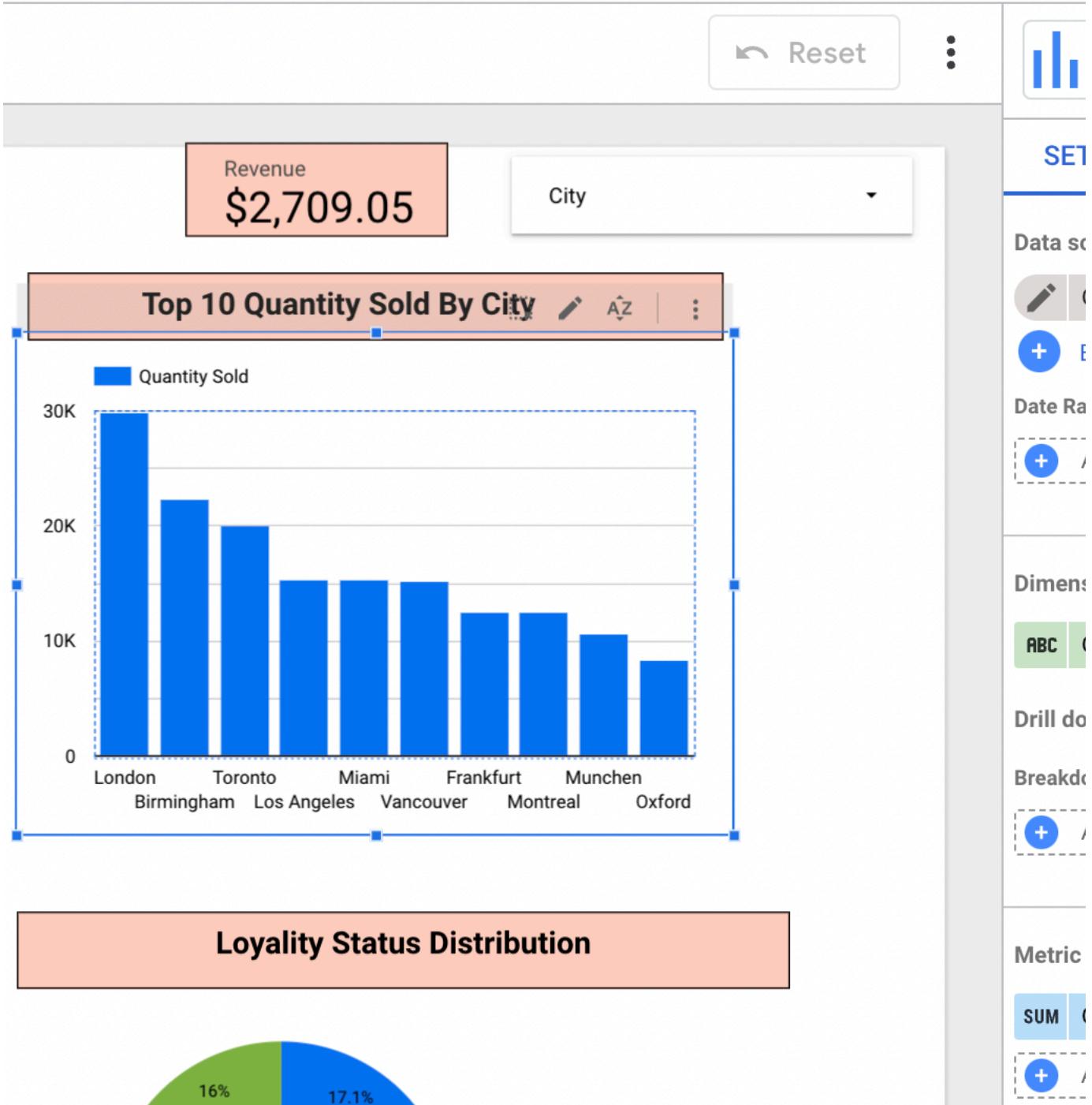
\$2,709.05

Revenue by product Line Coloured By Location Code



#### 4. Creating another bar chart to implement top/bottom filtering in visualizations

- Add a bar chart to your dashboard.
- Sort the data in the chart's data properties
- Limit the number of bars to show top 10
- Then drag the **City** field to **Dimensions** (in the SET UP area)
- Then drag the **Quantity Sold** field to **Metric**



##### 5. Creating a horizontal bar chart (Margin By Order Year Colored By Product Line) using Drill Down

- Add a horizontal bar chart to your dashboard
- Then drag the **Order Year** field to **Dimensions** (in SET UP area)
- Then drag the **Product Line** field to **Breakdown Dimension**
- Then drag the **Margin** calculated field to **Metric**



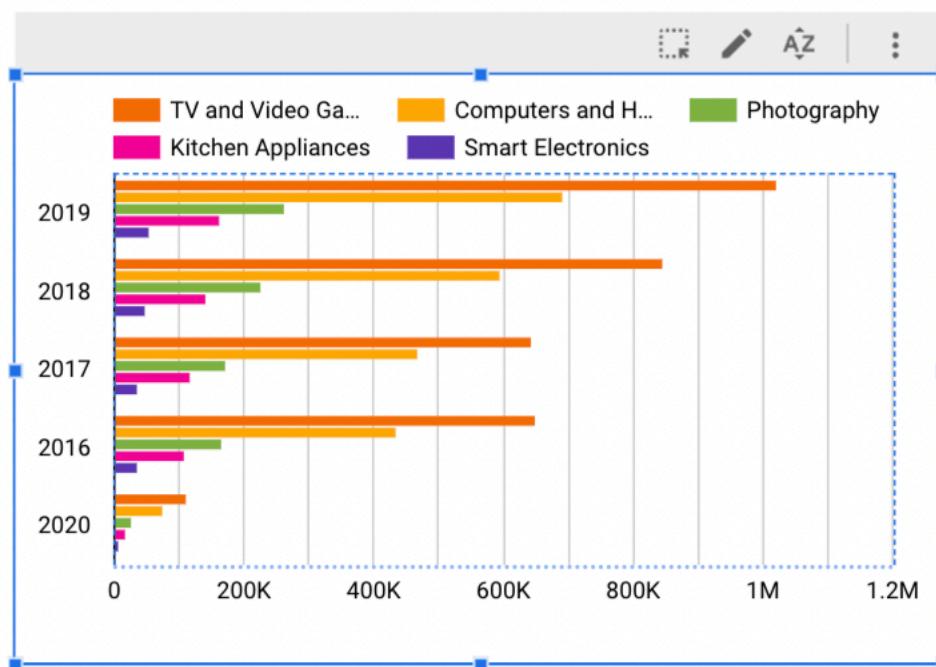
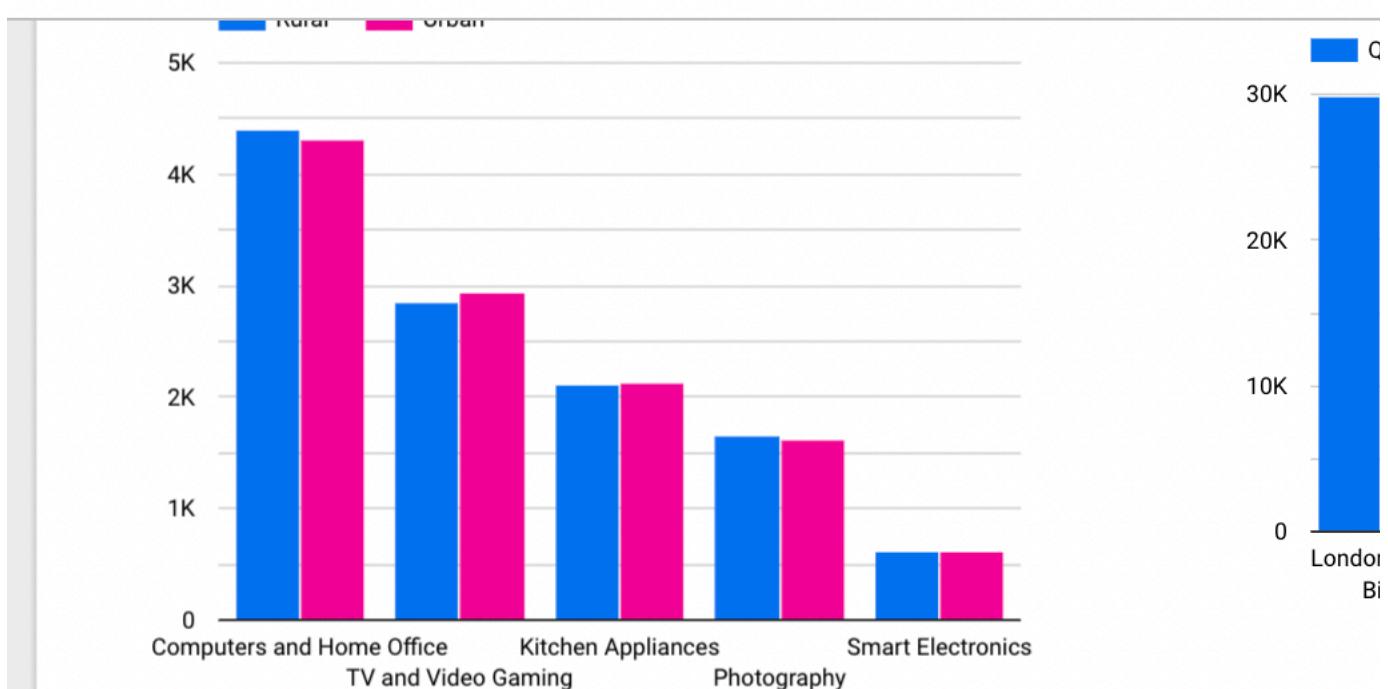
# Advanced Dashboard

File Edit View Insert Page Arrange Resource Help

↶ ↷ | ⌂ | 🔎 | ⌂ Add page | ⌂+ Add data | ⌂+ Add a chart ▾



+ Add quick filter



## 6. Creating a pie chart of Loyalty Status Distribution

- Add a pie chart to your dashboard
- Then drag the **Loyalty Status** field to **Dimensions** (in the SET UP area)
- Then drag the **Loyalty#** field to **Metric**

nce Help

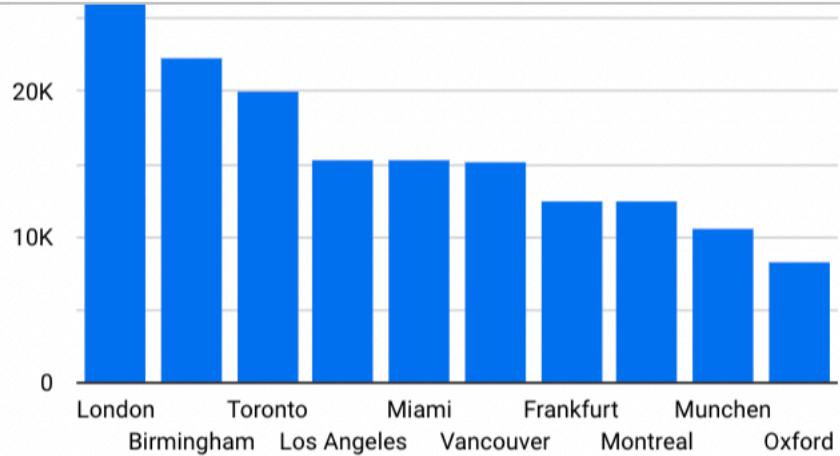
Reset



Add a chart



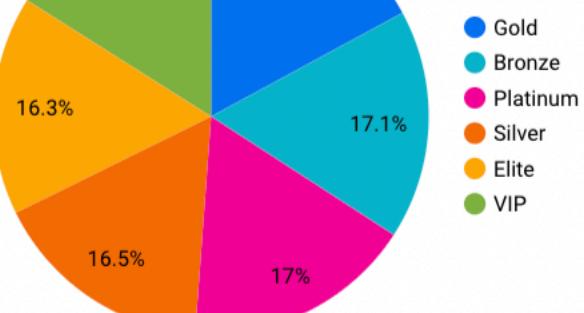
Add a control



Reset



### Loyalty Status Distribution



- Gold
- Bronze
- Platinum
- Silver
- Elite
- VIP

#### 7. Adding headings to all the created charts in the dashboard

- On the top of each chart, add a text box and enter the heading and use the text properties to make the text bold and fill it with color and provide a boundary.

# Advanced Dashboard

File Edit View Insert Page Arrange Resource Help

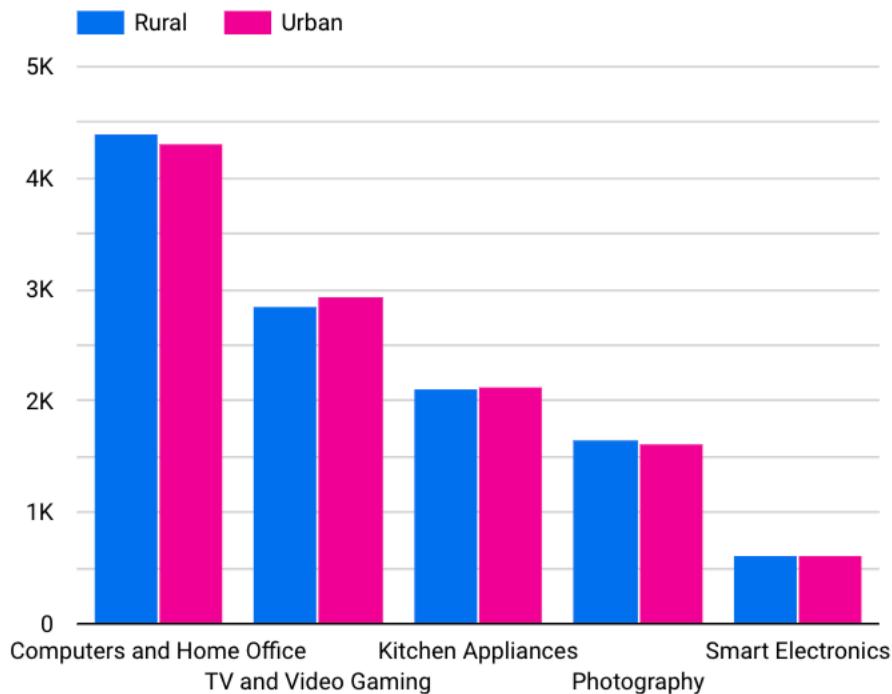


+ Add quick filter

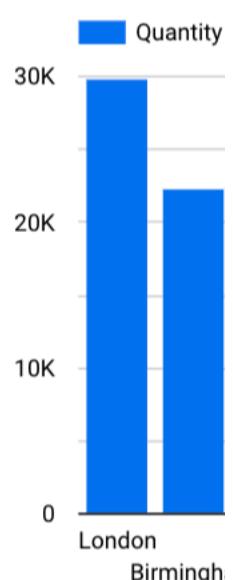
Margin  
**\$84.34**

Revenue  
**\$2,709.05**

Revenue by product Line Coloured By Location Code

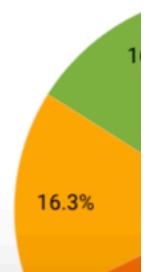
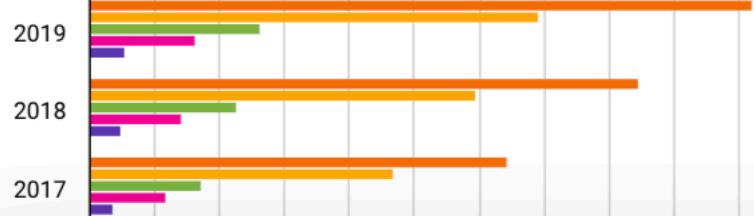


Top 1



**Margin By Order year Coloured By Product Line**

TV and Video Ga... Computers and H... Photography  
Kitchen Appliances Smart Electronics



## 8. Building an interactive dashboard

- Filter data in the current tab (selecting a city)



# Advanced Dashboard

File Edit View Insert Page Arrange Resource Help

↶ ↷ ⌂ 🔎 Add page Add data Add a chart

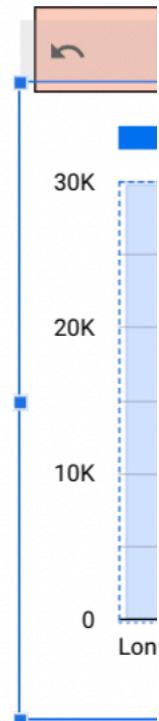
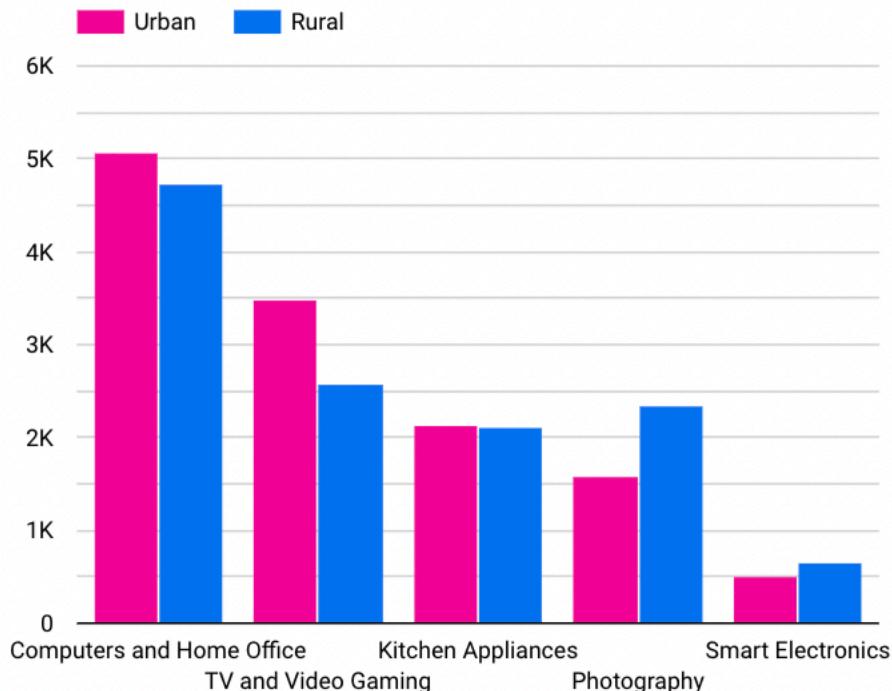


+ Add quick filter

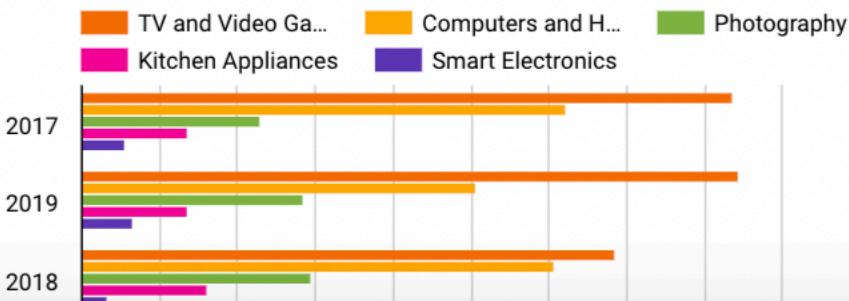
City Munchen (1)

Margin  
\$81.13

## Revenue by product Line Coloured By Location Code



## Margin By Order year Coloured By Product Line



- Filter data in the current tab (selecting a product line)

# Advanced Dashboard

File Edit View Insert Page Arrange Resource Help

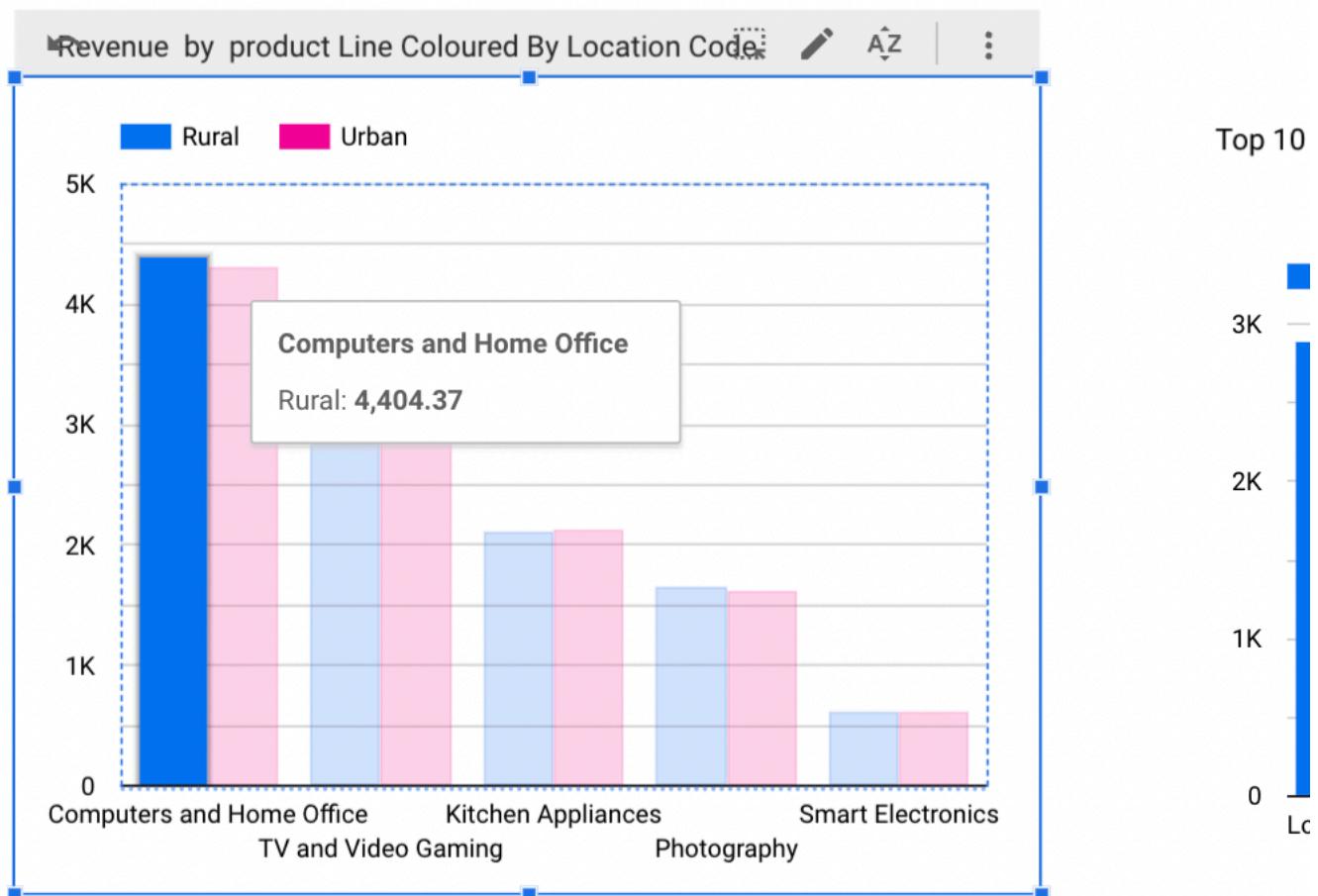


+ Add quick filter

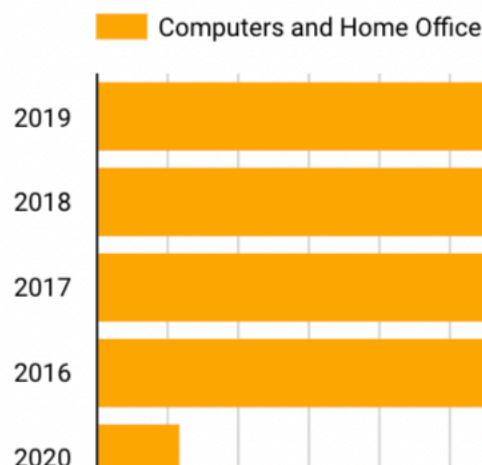
Product Line, Location Code (1) X

\$114.32

\$4,404.37



Margin By Order year Coloured By Product Line



- Finalize the dashboard.
  - Ensure all visualizations are correctly configured and aligned.
  - Preview the dashboard in **View** mode to check interactivity and finalize the design.
- Save the dashboard.
- Download as a PDF (you can also share your PDF).

Congratulations! You have completed this lab and are ready for the next topic.

## **Author(s)**

Shubhra Das

## **Other Contributor(s)**

Jyothi Mani, Steve Ryan