

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

Data

[← 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**.

The screenshot shows a web browser window with a dark gray header bar. The title bar reads "Untitled Report". Below the title bar is a navigation bar with icons for back, forward, search, and other functions, followed by menu items "File", "View", "Page", and "Help". To the right of the menu are three buttons: "Add page", "Add data", and "Add a chart". The main content area is a large, mostly empty gray space. A white modal window is overlaid on the right side of the screen. The modal has a dark gray header bar with the text "You are about to..." and a progress bar below it. The main body of the modal contains the text "Note that Report Editor dimensions and me" and a checkbox labeled "Don't show me again".

d. Save the new report

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

2. Working with advanced Google Looker Studio dashboard capabilities

a. Create calculations

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

Reset  View   

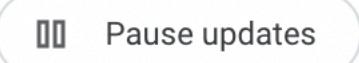
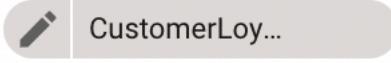
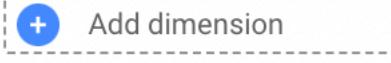
Theme and layout 

Chart  Data

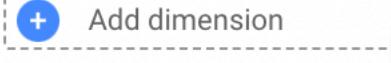
SETUP **STYLE**

Data source  

Date Range Dimension 

Dimension 

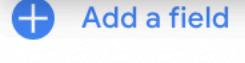
Drill down 

Breakdown Dimension 

Metric  

Add calculated field

Add group

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

CustomerLoyaltyProgram .csv

Scope: Reusable

Data credentials

[← ALL FIELDS](#)

Available Fields



123 Revenue

123 Unit Cost



123 Unit Sale Price

123 Record Count

Field Name

Margin

Formula

1

Unit Sale Price

-

U

- 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**.

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

[Add a control](#) | [Reset](#) [Share](#) [View](#) | Theme and layout

[Drop-down list](#)

[Reset](#)

[Control](#)

[Fixed-size list](#)

[Input box](#)

[Advanced filter](#)

[Slider](#)

[Checkbox](#)

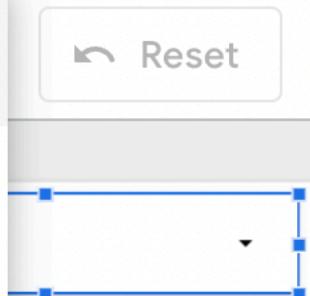
[Preset filter](#)

[Date range control](#)

[Data control](#)

[Dimension control](#)

[Button](#)



- 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

Data

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

Search

- CustomerLoyalty**
- 123 Latitude
- ABC Location Code
- 123 Longitude
- 123 Loyalty Count
- 123 Loyalty#
- ABC LoyaltyStatus
- 123 Margin
- ABC Marital Status
- 123 MonthsAsMem
- 123 Order Year
- ABC Postal code
- ABC Product Line
- ABC Province or Sta
- 123 Quantity Sold
- ABC Quarter
- 123 Revenue
- 123 Unit Cost
- + Add a field
- + Add a parameter
- + 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 a data visualization tool interface with the following details:

- Top Bar:** Includes icons for 'et' (Logout), 'Share' (with a dropdown arrow), 'View' (with a dropdown arrow), three dots, a question mark, and a user profile icon.
- Header:** A dropdown menu is open, showing 'Theme and layout' and a 'Pause updates' button.
- Properties Pane (Style Tab):**
 - Chart:** Shows 'Total 1,168' and a dropdown menu.
 - Setup:** Includes font size (28px) and font family (Roboto) dropdowns, and a checkbox for 'Hide Metric Name'.
 - Metric name:** A section with three alignment icons.
 - Metric value:** A section with three alignment icons.
 - Comparison:** A section with three alignment icons.
 - Background and Border:** Includes a color palette and a dropdown menu.
- Data Panel:** Shows a search bar and a list of fields:
 - CustomerLoyaltyProgram
 - Latitude
 - Location Code
 - Longitude
 - Loyalty Count
 - Loyalty#
 - LoyaltyStatus
 - Margin
 - Marital Status
 - MonthsAsMember
 - Order Year
 - Postal code
 - Product Line
 - Province or State
 - Quantity Sold
 - Quarter
 - Revenue
 - Unit Cost
 - Add a field**
 - Add a parameter**
 - Add Data**
- Right Sidebar:** Includes buttons for 'Data', 'Properties', and 'Filter bar'.

- 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**.

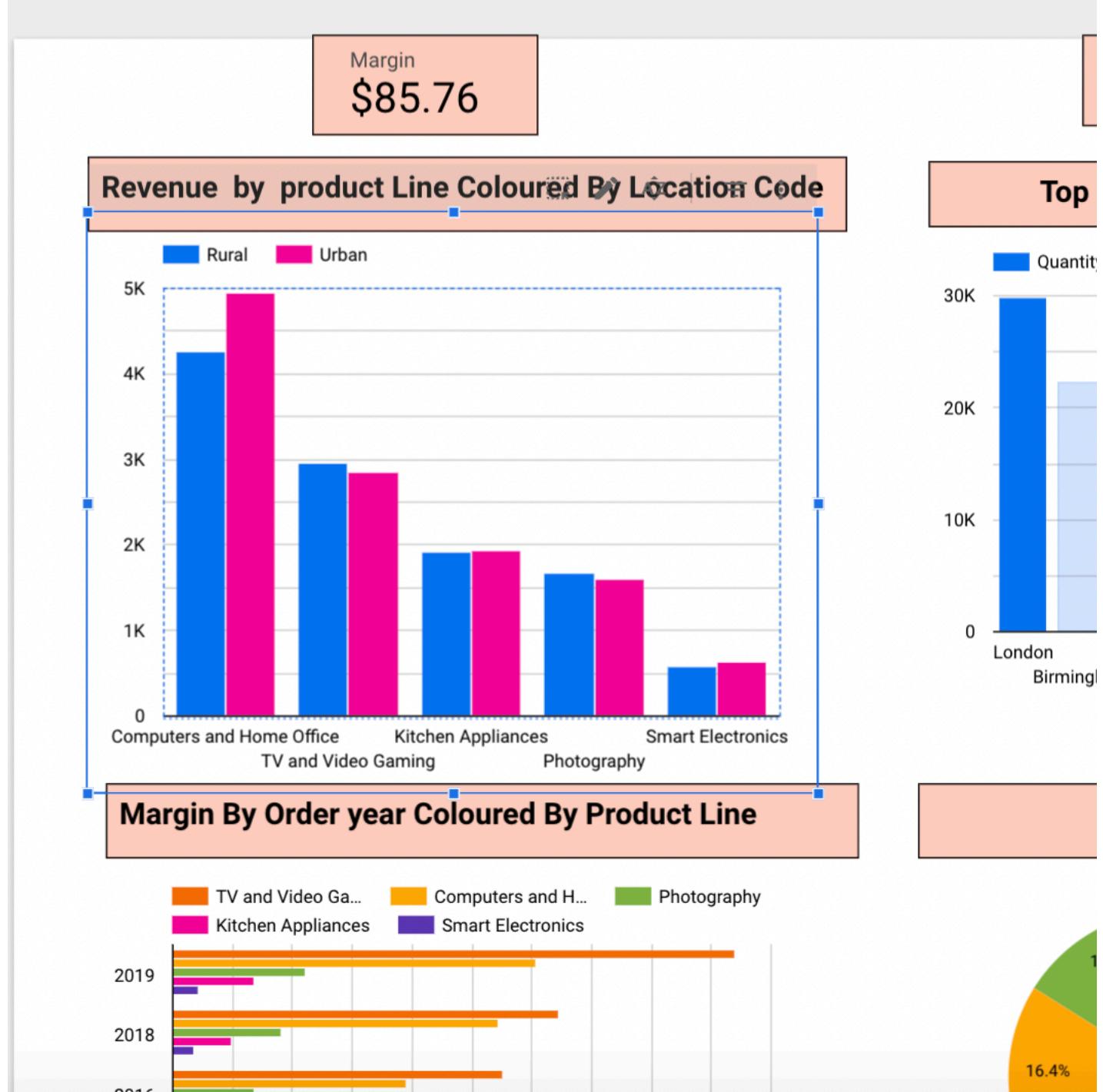
Advanced Dashboard

File Edit View Insert Page Arrange Resource Help



+ Add quick filter

City London (1)



3. Creating a bar chart

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

- Add a bar chart to your dashboard.

- Then drag the **Product Line** field to **Dimensions** (in the SET UP area)
- Then drag the **Location Code** field to **Breakdown Dimension**
- 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 ⌂

Y + Add quick filter

Margin **\$84.34**

Revenue **\$2,709.05**

Revenue by product Line Coloured By Location Code

Product Line	Rural	Suburban	Urban
Computers and Home Office	~4500	~4500	~4500
TV and Video Gaming	~2800	~2800	~2900
Kitchen Appliances	~2200	~2100	~2200
Photography	~1600	~1600	~1600
Smart Electronics	~600	~600	~600

- b. Exclude data points from the visualization
 - o Add a filter in the **Location Code**

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

Create Filter

Name CustomerLoyaltyProgram .csv

Exclude ▾ ABC Location Code Equal

AND

This filter has 1 clause

The screenshot shows a dashboard application with the following elements:

- Top Bar:** Includes File, Edit, View, Insert, Page, Arrange, Resource, and Help menus.
- Toolbar:** Contains icons for back, forward, search, add page, add data, and add chart.
- Metrics:** Margin (\$84.34) and Revenue (\$2,709.05).
- Chart Preview:** A chart titled "Revenue by product Line Coloured By Location Code" with a legend and sorting options (A-Z).
- Filter Creation Section:** A "Create Filter" area with a "Name" field containing "CustomerLoyaltyProgram .csv".
- Filter Options:** A dropdown menu set to "Exclude" with a "ABC" button next to it, and a "Location Code" button in a green box.
- Logical Operator:** An "Equal" button.
- Clause Summary:** A message stating "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 ▾ |



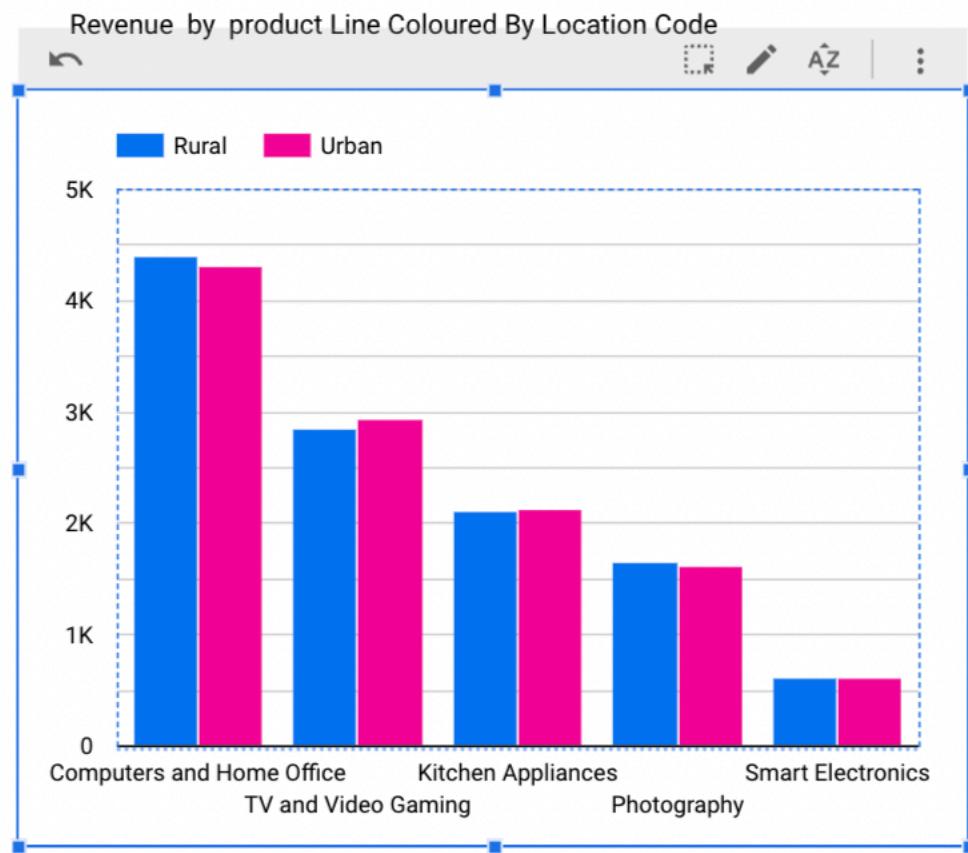
+ Add quick filter

Margin

\$84.34

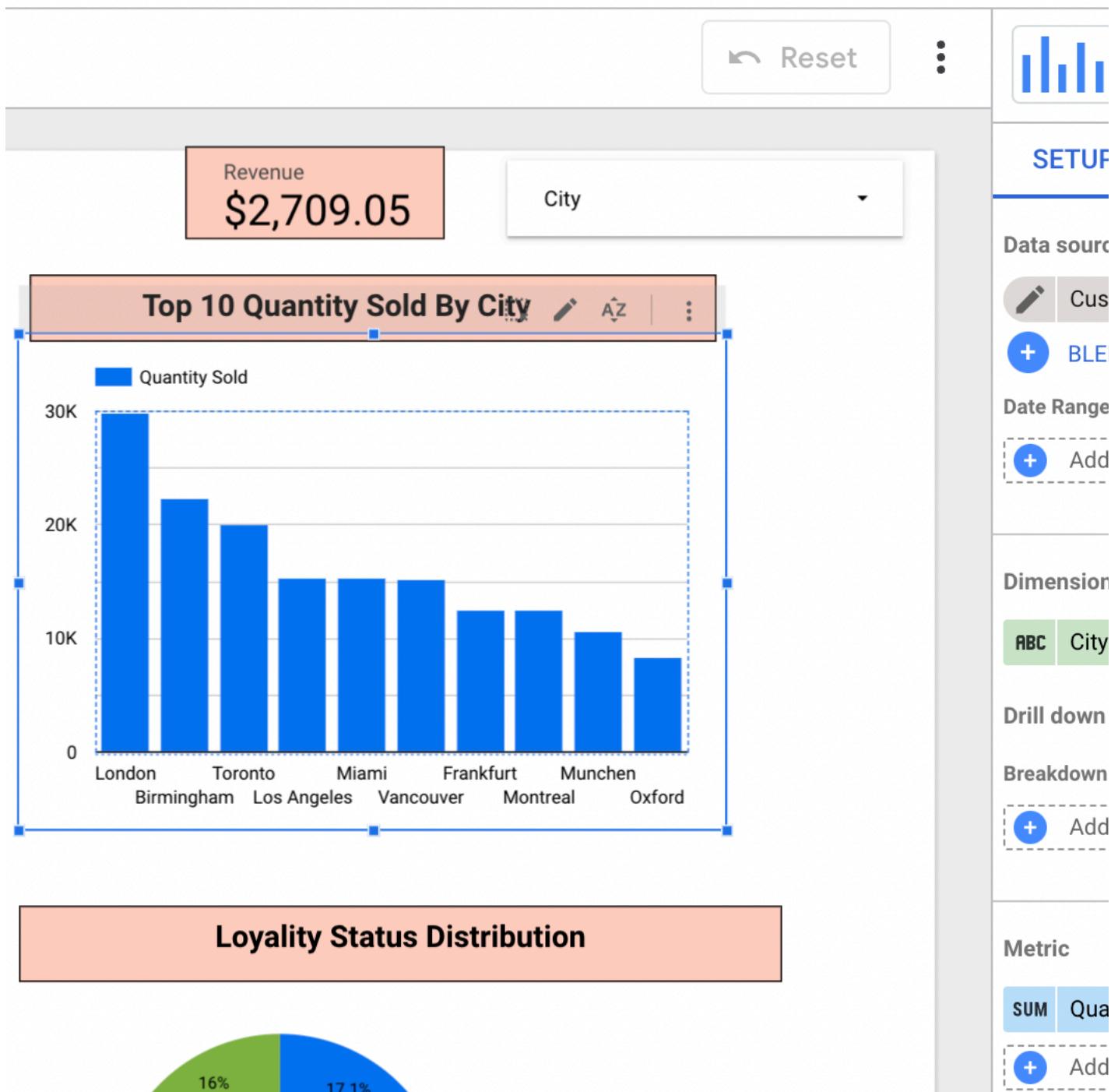
Revenue

\$2,709.05



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**

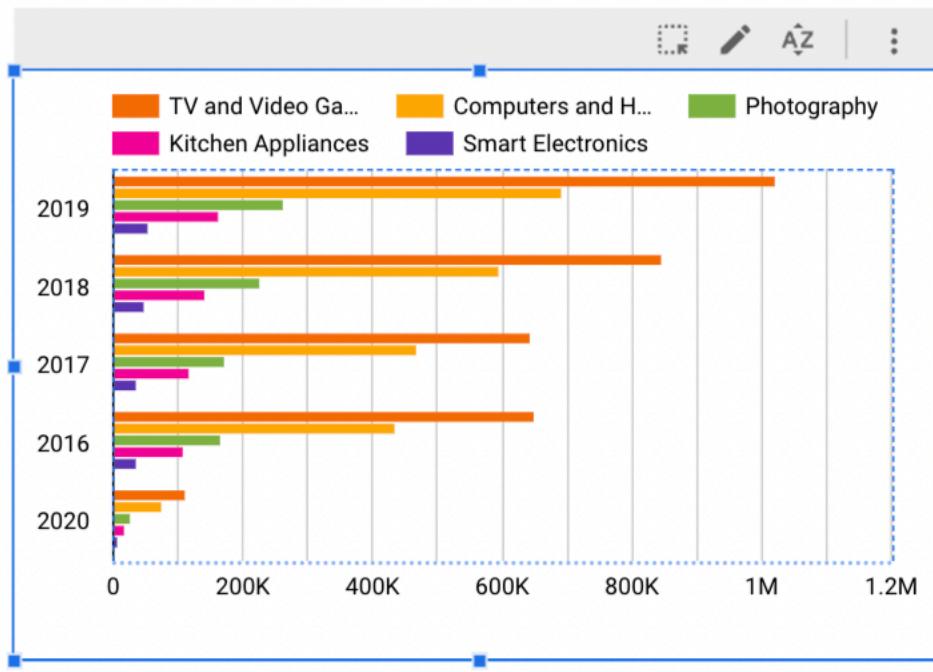
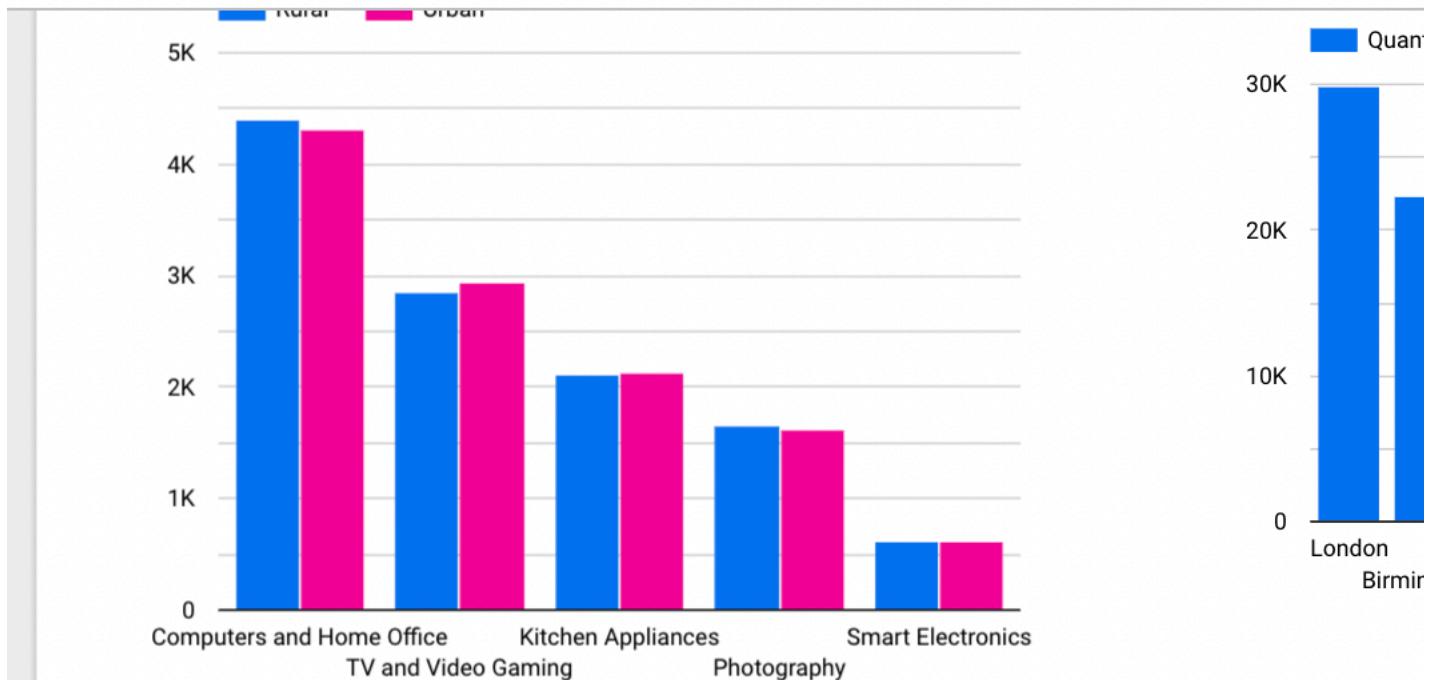


Advanced Dashboard

File Edit View Insert Page Arrange Resource Help



+ Add 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**

Reset

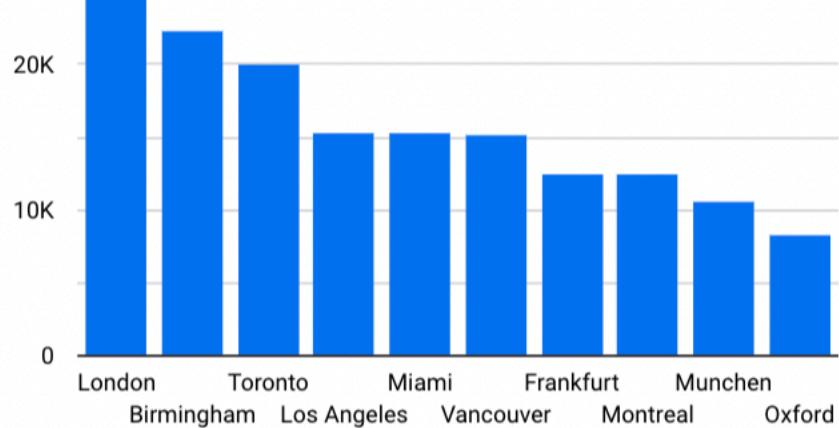
rce Help



Add a chart



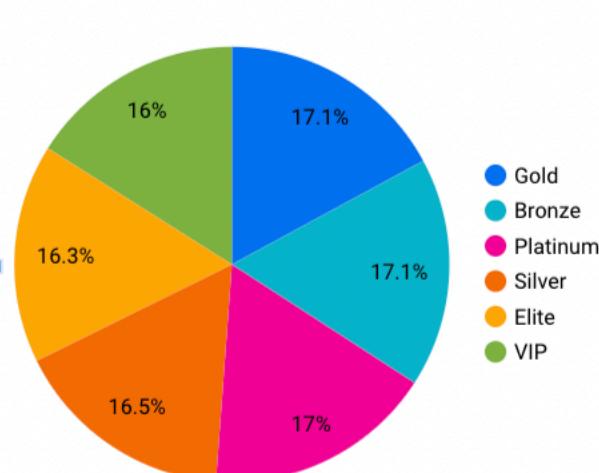
Add a control



Reset



Loyalty Status Distribution



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

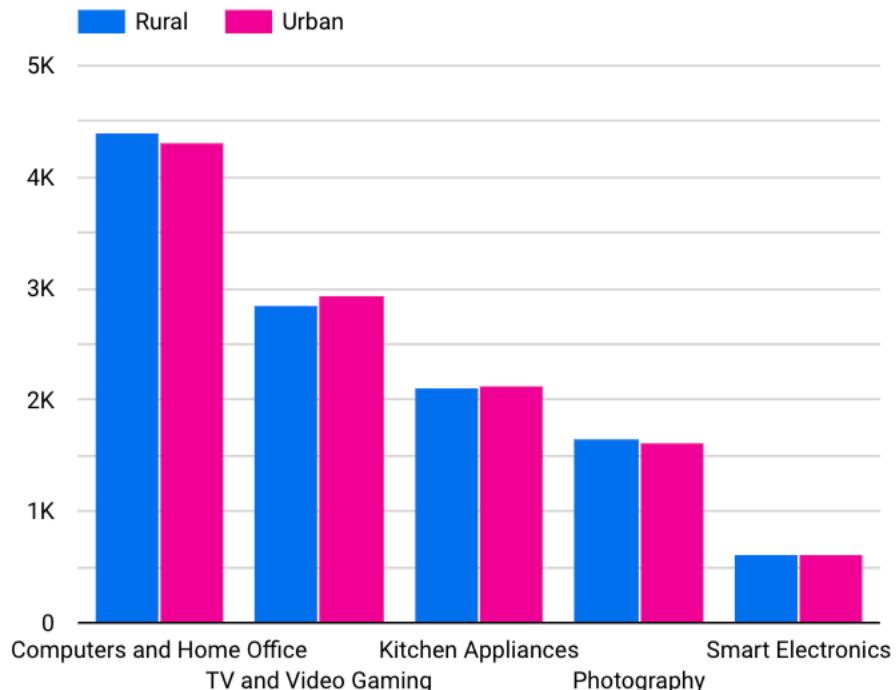


+ Add quick filter

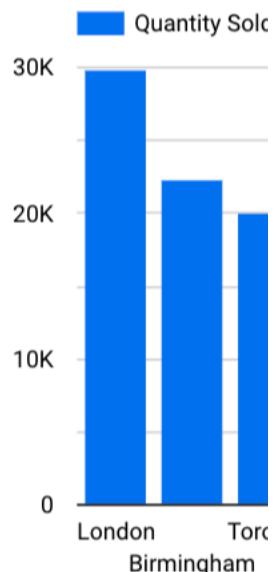
Margin
\$84.34

Revenue
\$2,709.05

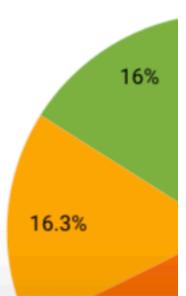
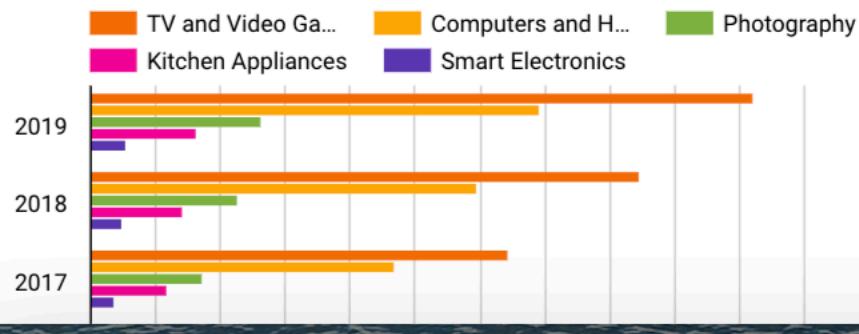
Revenue by product Line Coloured By Location Code



Top 10



Margin By Order year Coloured By Product Line



- 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) X

Margin

\$81.13

Revenue by product Line Coloured By Location Code

Urban Rural

6K

5K

4K

3K

2K

1K

0

Computers and Home Office Kitchen Appliances Smart Electronics

TV and Video Gaming

Photography

30K

20K

10K

0

London
Bir...

Computers and Home Office Kitchen Appliances Smart Electronics

30K

20K

10K

0

London
Bir...

Margin By Order year Coloured By Product Line

TV and Video Ga...

Computers and H...

Photography

Kitchen Appliances

Smart Electronics

2017

2019

2018

15.5

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

Advanced Dashboard

File Edit View Insert Page Arrange Resource Help

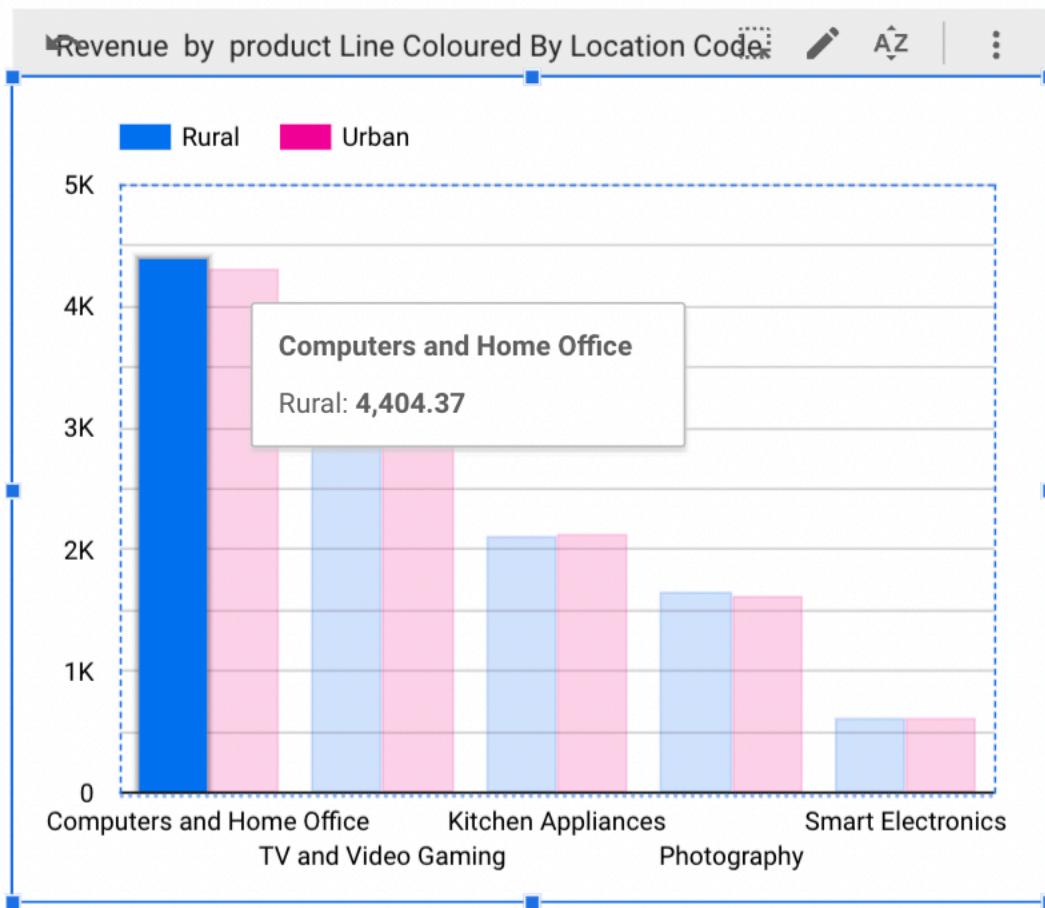


+ Add quick filter

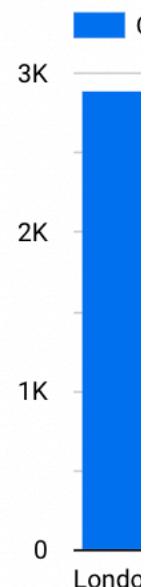
Product Line, Location Code (1) X

\$114.32

\$4,404.37



Top 10 Qua



Margin By Order year Coloured By Product Line

Computers and Home Office





9. Saving the dashboard and downloading as a PDF

- 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)

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Other Contributor(s)

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