



Data Visualization Lab

The Tableau Workspace

Dec. 12, 2022

Is there anything you want to ask
about Lecture 3?

The Tableau Workspace

Tableau Dashboards



Before we start ...

Download the Workbook for today's lecture:

 [Download from Tableau Public](#)



Dashboards and stories

Tableau Public allows you to display your data in **dashboards** and **stories**.

Dashboards are a way to present one or more views, often with filters, legends, and interactivity tying the views together.

They can include:

- Sheets;
- Text;
- Images;
- Webpages.

Dashboard

Layout

Device Preview

Size

Automatic

Sheets

- Scatterplot
- Running Total ...
- Shipping Cost
- Average Shippin...

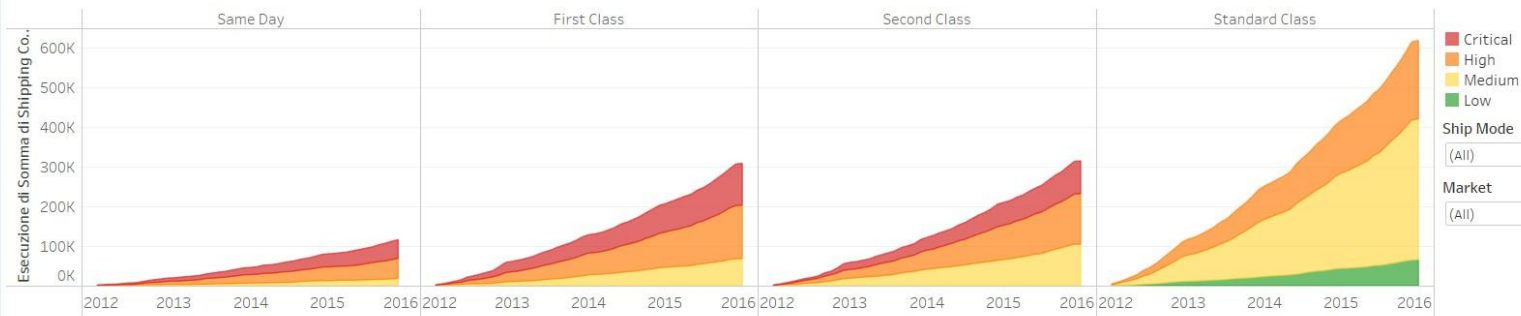
Objects

- Horizontal
- Vertical
- Text
- Image
- Web Page
- Data Story
- Blank
- Navigation
- Download
- Extension
- Ask Data
- Workflow

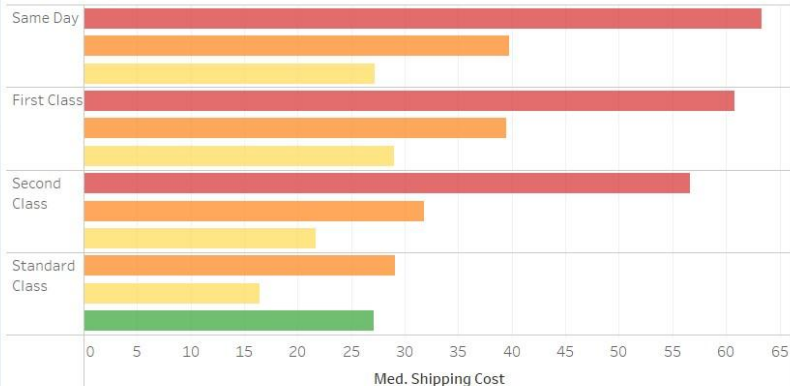
Tiled Floating

☐ Show dashboard title

Running Total Shipping Costs



Shipping Cost



Average Shipping Cost by Country





Dashboards and stories

Stories in Tableau are *narrated walkthroughs of one or more sheets or dashboards*; for example leading the audience through a discovery you made as you were analyzing the data.

Each view or dashboard in a story is called a **story point**.



We'll see more on stories during the next lessons.

Story

Layout

Shipping Overview

New story point

Blank

Duplicate

- Shipping ...
- Scatterplot
- Dashboard
- Average Shippin...
- Product Orders
- Resized Shippin...
- Running Total ...
- presized ...

A Drag to add text

☒ Show title

Size

Automatic

Costs are fairly
even worldwide:

Shipping Costs
are highest for

Most orders are
Medium Order

Standard shipping
is least expensive

Explore trends by
Market using the



© 2022 Mapbox © OpenStreetMap

Category

☒ (All)

☐ Furniture

☐ Office Supplies

☐ Technology

Avg. Shipping Cost

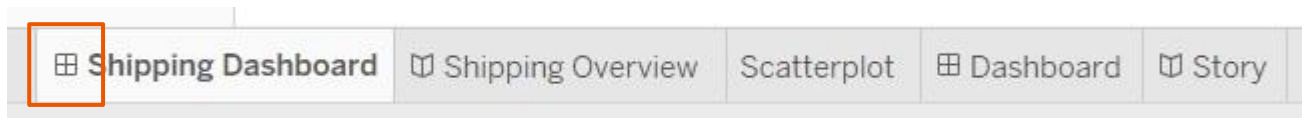
1,2 295,6



Dashboards and stories

You can distinguish between stories and dashboards in a Workbook by looking at the tab icons:

- The small grid (e.g. Shipping Dashboard, Dashboard) represents the dashboard;

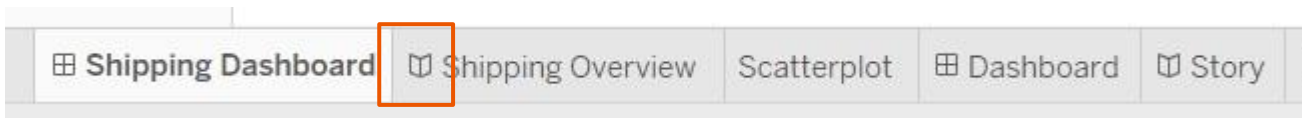




Dashboards and stories

You can distinguish between stories and dashboards in a Workbook by looking at the tab icons:

- The small grid (e.g. Shipping Dashboard, Dashboard) represents the **dashboard**;
- The small open book (e.g. Shipping Overview) is a **story**;

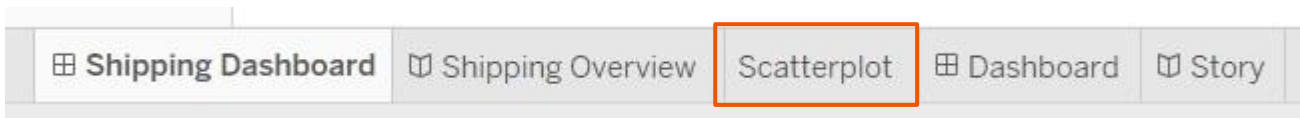




Dashboards and stories

You can distinguish between stories and dashboards in a Workbook by looking at the tab icons:

- The small grid (e.g. Shipping Dashboard, Dashboard) represents the **dashboard**;
- The small open book (e.g. Shipping Overview) is a **story**;
- The tab with no icon (e.g. Scatterplot) is a single **view**.





Sheets, dashboards and stories interplay

We said that the main characteristics of dashboards is interactivity.

Before we move on, keep in mind that:

- Any view that is brought into a dashboard or story is simply a window to the underlying worksheet.
- This means that changes made on one sheet will be reflected in any the other places that content is in use (e.g. dashboards).
- Stories, though, have slightly different behavior.

So, what happens when you modify a view inside a dashboard/story? 🤔



Sheets, dashboards and stories interplay

Build a dashboard

- Move to the **Dashboard** tab;
- Drag and drop the **Scatterplot** (or any view that you want) onto the canvas.

Dashboard Layout <

Device Preview

Size

Automatic ▾

Sheets

Scatterplot

Objects

- ☒ Horizontal
- ☐ Blank
- ☐ Vertical
- ☐ Navigation
- ☐ Text
- ☐ Download
- ☐ Image
- ☐ Extension
- ☐ Web Page
- ☐ Ask Data
- ☐ Data Story
- ☐ Workflow

Tiled

Floating

☐ Show dashboard title

Drop sheets here

Data Source

Shipping Dashboard

Shipping Overview

Scatterplot

Dashboard

Story





Sheets, dashboards and stories interplay

Build a story

- Move to the **Story** tab;
- Drag and drop the **Scatterplot** (or any view that you want) onto the canvas.

Story

Layout

Story Title

New story point

Blank

Duplicate

Shipping ...

Scatterplot

Dashboard

Add a caption

Drag a sheet here

A Drag to add text

☒ Show title

Size

Automatic

Data Source

Shipping Dashboard

Shipping Overview

Scatterplot

Dashboard

Story



Sheets, dashboards and stories interplay

Modify the [view](#)

- Once you have imported the scatterplot in both the story and the dashboard, move to the **Scatterplot** tab;
- Add the **Category** data field to the **Color shelf** in the Marks pane.

Now head over to the [dashboard](#) and the [story](#).

Do they look different than before?



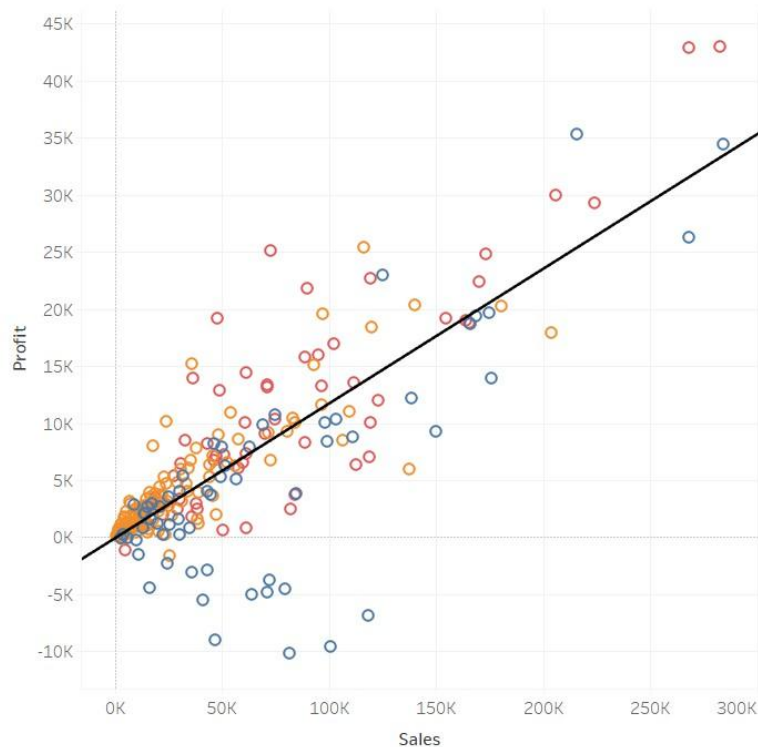
Do they look different than before?

The story has been affected by the changes.

Categories are represented by colors in the scatterplot.

Story Title

Add a caption



Do they look different than before?

The dashboard has been affected by the changes.

Categories are represented by colors in the scatterplot.





Sheets, dashboards and stories interplay

Modify the filters in the [view](#)

- Move to the **Scatterplot** tab;
- Uncheck **Technology** in the Category filter on the right of your screen and verify that the view has updated.



Category

☐ (All)

☒ Furniture

☒ Office Supplies

☐ Technology

Category

☒ Furniture

☒ Office Supplies

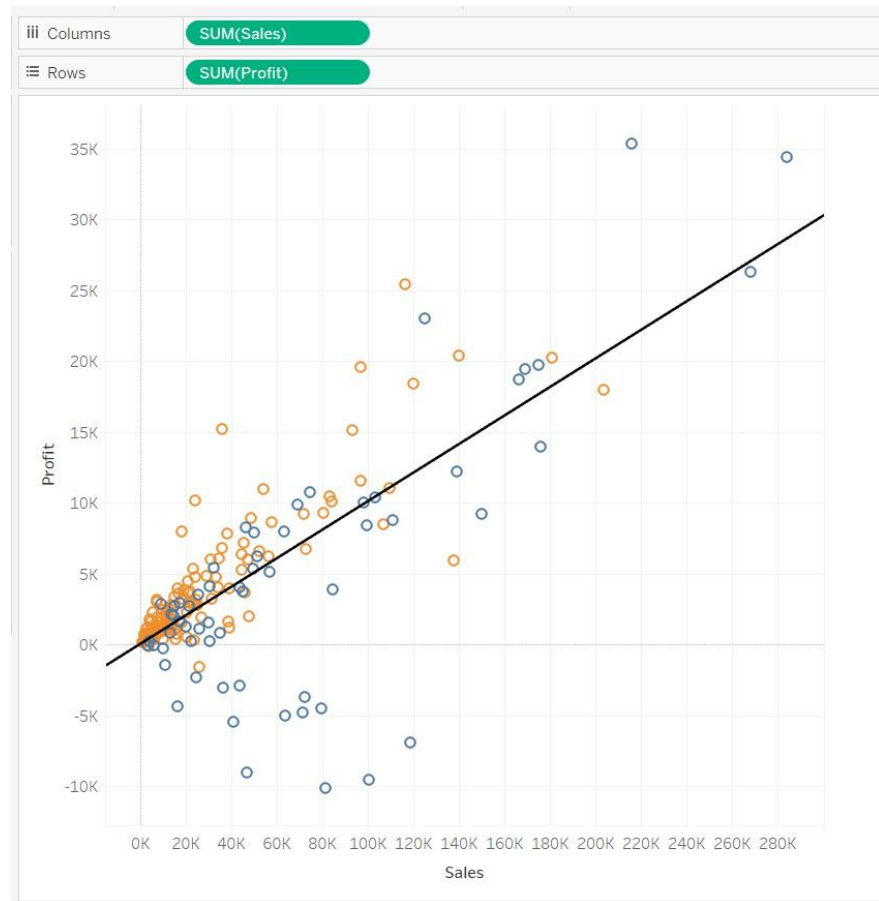
Sheets, dashboards and stories interplay

Modify the filters in the view

- Move to the **Scatterplot** tab;
- Uncheck **Technology** in the Category filter on the right of your screen and verify that the view has updated.

Now head over to the dashboard and the story.

Do they look different than before?



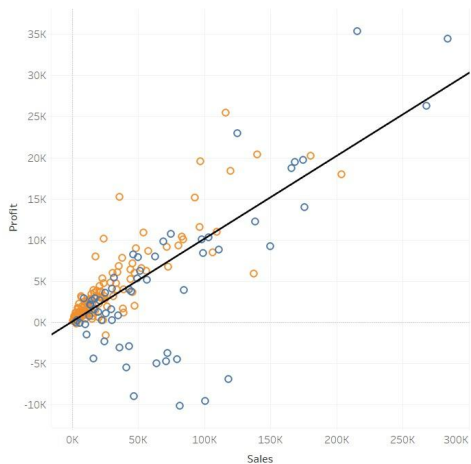
Do they look different than before?

The story has been affected by the changes.

The Technology category is omitted from the chart.

Story Title

Add a caption



Category

- ☐ (All)
- ☒ Furniture
- ☒ Office Supplies
- ☐ Technology

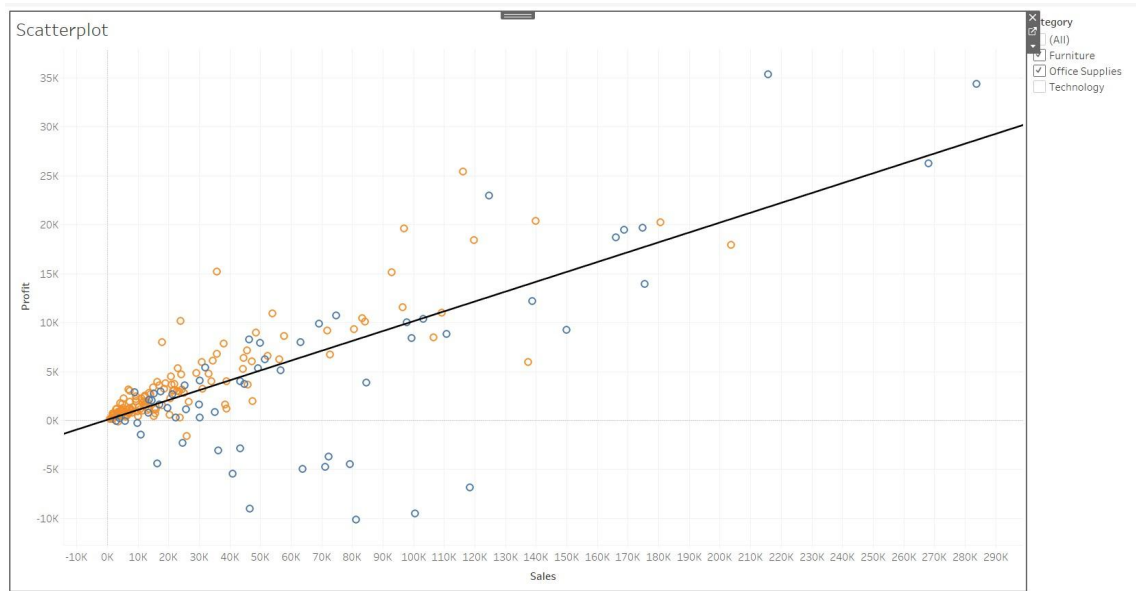
Category

- ☒ Furniture
- ☒ Office Supplies

Do they look different than before?

The dashboard has been affected by the changes.

The Technology category is omitted from the chart.





Sheets, dashboards and stories interplay

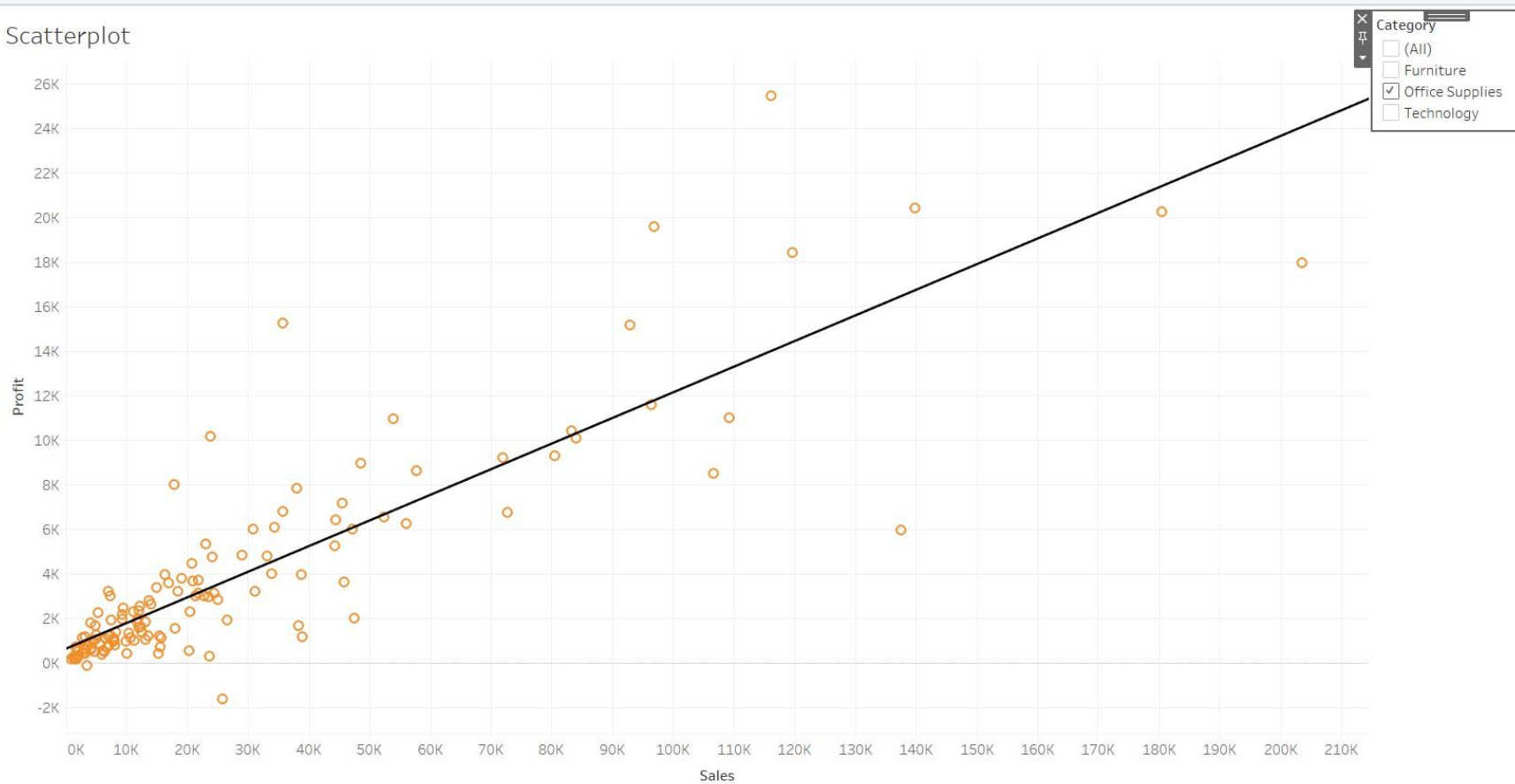
Modify the filters in the dashboard

- Move to the **Dashboard** tab;
- Uncheck ***Furniture*** in the Category filter on the right of your screen and verify that the view has updated (it should include only the ***Office Supplies*** category).

Now head over to the story and the view.

Do they look different than before?

Scatterplot



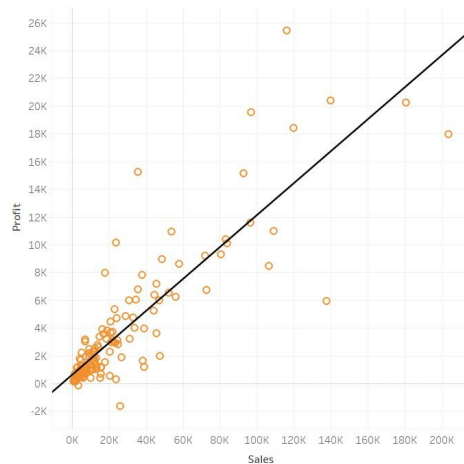
Do they look different than before?

The story has been affected by the changed.

The story only includes the **Office Supplies** category.

Story Title

Add a caption



Category

- ☐ (All)
- ☐ Furniture
- ☒ Office Supplies
- ☐ Technology

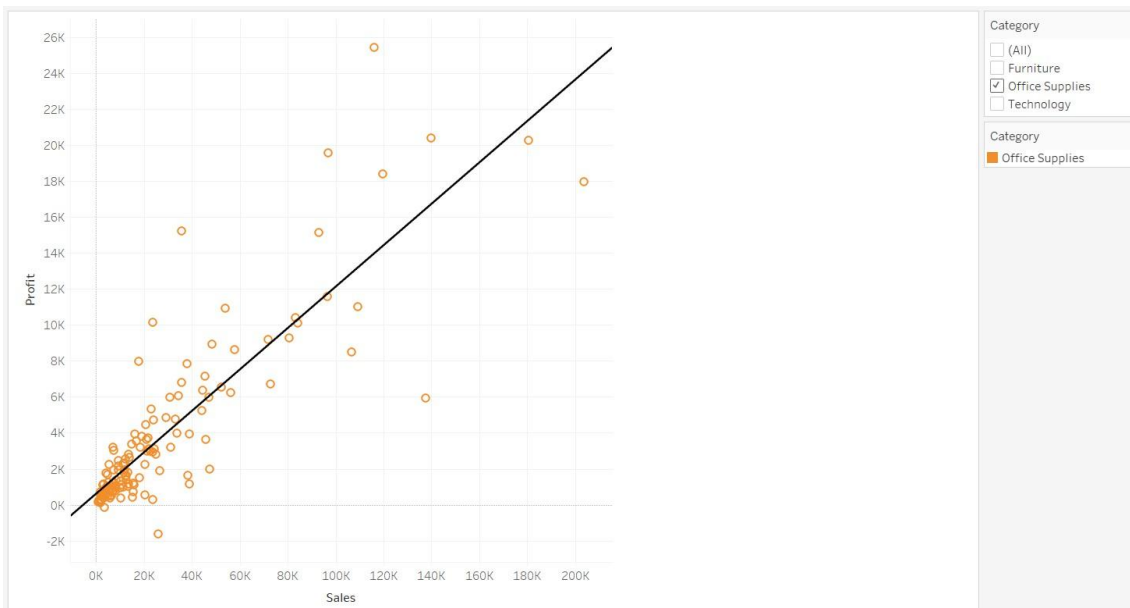
Category

- ☒ Office Supplies

Do they look different than before?

The view has been affected by the changed.

The scatterplot only includes the *Office Supplies* category.





Sheets, dashboards and stories interplay

Modify the filters in the story

- Move to the **Story** tab;
- Retick the *Technology* category in the filter on the Story.

Now head over to the dashboard and the view.

Do they look different than before?



Sheets, dashboards and stories interplay

Modify the filters in the story

- Move to the **Story** tab;
- Retick the *Technology* category in the filter on the Story.

Now head over to the dashboard and the view.

Do they look different than before? NO.

You will notice that neither the Dashboard nor the Scatterplot views have changed after the filter has been updated in the Story tab.



Sheets, dashboards and stories interplay

Modify the filters in the story

- Move to the **Story** tab;
- Retick the *Technology* category in the filter on the Story.

Now head over to the dashboard and the view.

What if we go back to the Scatterplot view and update the filter again?



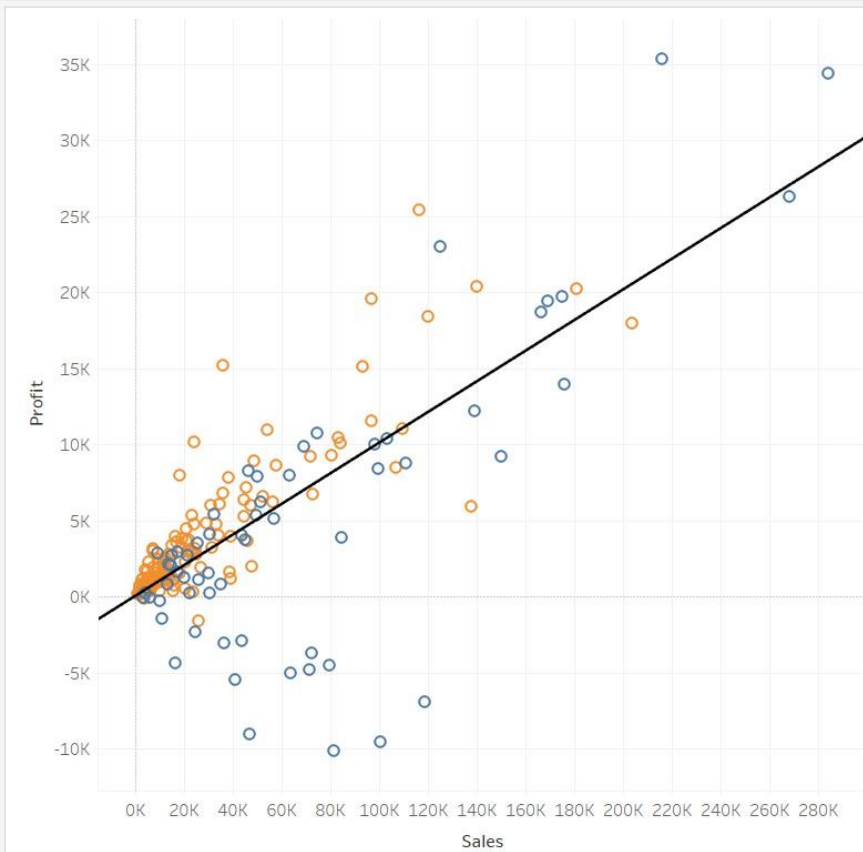
Sheets, dashboards and stories interplay

Modify the filters in the view after the story has been updated

- Move to the **Scatterplot** tab;
- Retick the *Furniture* category in the filter on the Scatterplot.

Now head over to the dashboard and the story.

Do they look different than before?



Category

☐ (All)

☒ Furniture

☒ Office Supplies

☐ Technology

Category

Furniture

Office Supplies

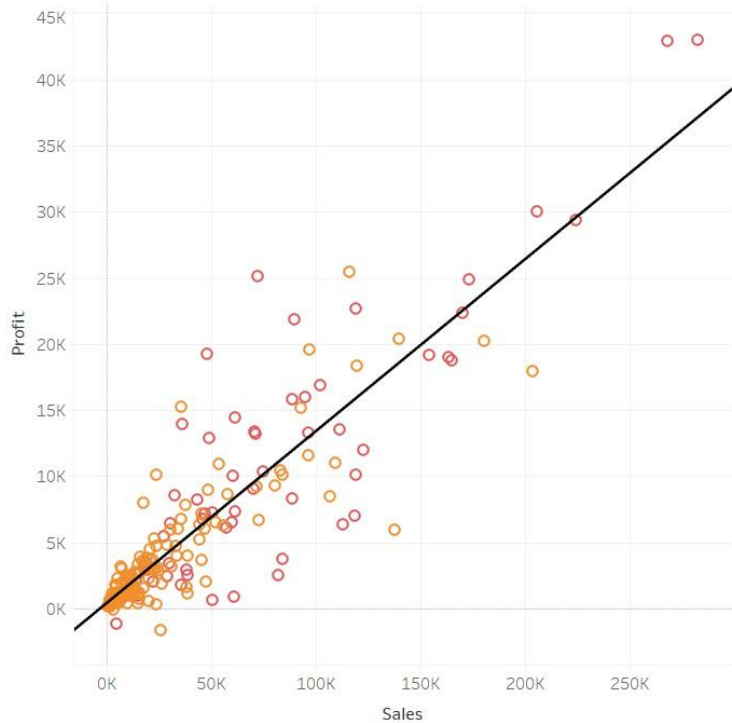
Scatterplot



Story Title



Add a caption



Category

- ☐ (All)
- ☐ Furniture
- ☒ Office Supplies
- ☒ Technology

Category

- ☒ Office Supplies
- ☒ Technology

 The Story view



Sheets, dashboards and stories interplay

To recap

- Changes made on a **story** do not reach back and update the underlying content (or, simply put, changes in stories do not impact any other content in the Workbook);
 - ◆ This happens because, once we've modified the story's filter, the view no longer tracks filter changes that were made elsewhere.
- Changes made on a **dashboard** do reach back and update the underlying content.

But ...

What if we want to change the shapes in our chart? Will the changes be propagated throughout all the views?



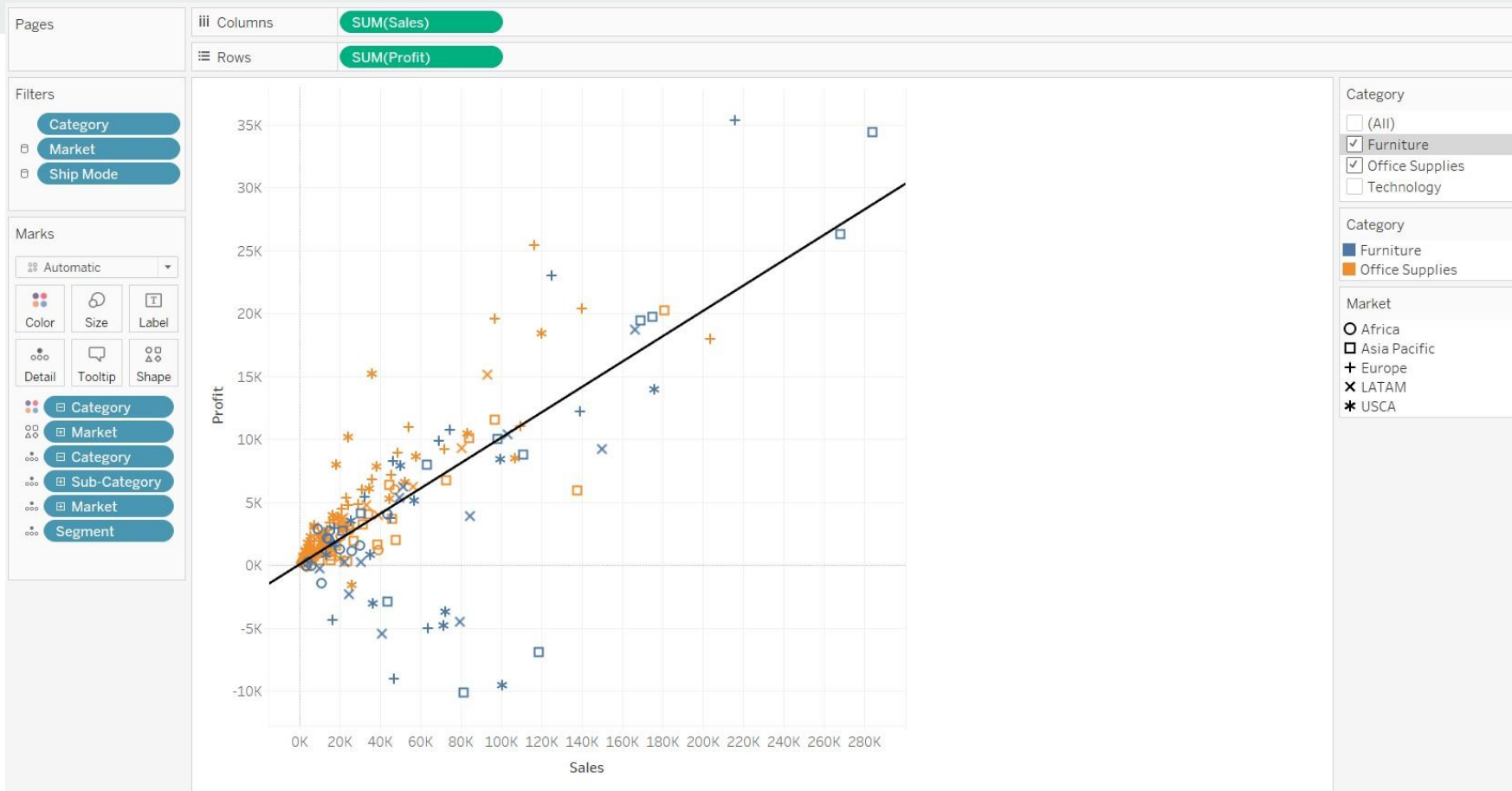
Sheets, dashboards and stories interplay

Modify the shapes in the view

- Move to the **Scatterplot** tab;
- Add the **Market** data field to the **Shape** shelf in the Marks pane..

Now head over to the story (we already know that the Dashboard will have updated).

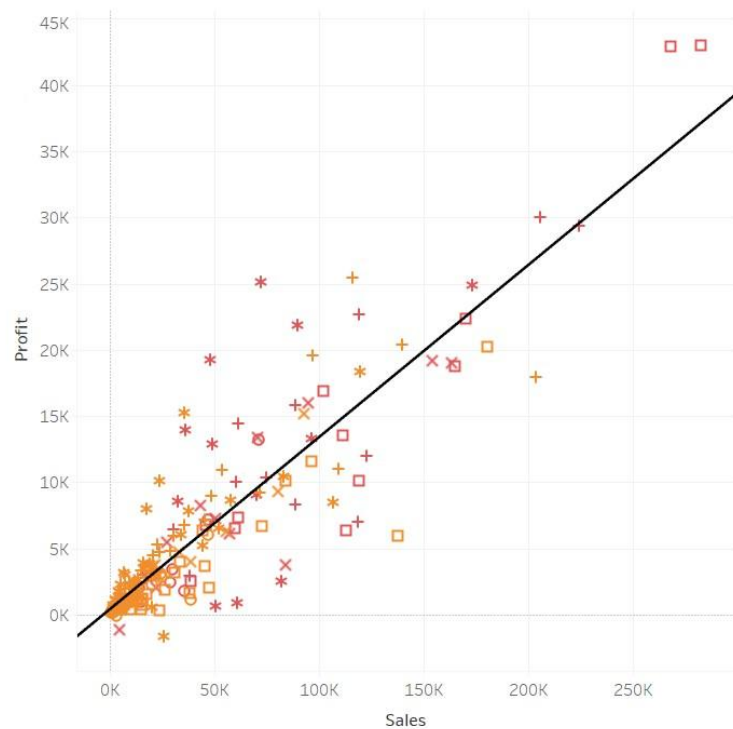
Has the Story been updated?



Story Title



Add a caption



Category

- ☐ (All)
- ☐ Furniture
- ☒ Office Supplies
- ☒ Technology

Category

- ☒ Office Supplies
- ☒ Technology

Market

- ☐ Africa
- ☐ Asia Pacific
- ☐ Europe
- ☐ LATAM
- ☐ USCA

The Story view



Sheets, dashboards and stories interplay

Modify the shapes in the view

- Move to the **Scatterplot** tab;
- Add the **Market** data field to the **Shape** shelf in the Marks pane..

Now head over to the story (we already know that the Dashboard will have updated).

Has the Story been updated? YES.

This happens because no changes have occurred in the story regarding the Shape of data (we have modified filters and colors so far).



Sheets, dashboards and stories interplay

To recap

- Changes made on one piece of content – whether it's a view or a dashboard – will carry through to the other places that content is in use, which means that:
 - ◆ Changes made in **views** will occur in dashboards and stories;
 - ◆ Changes made in **dashboards** will occur in views and stories.
- Changes made in **stories** will not be reflected in dashboards and views;
- Once a content has been modified in the story, it will stop tracking changes that occur in other views, which means that:
 - ◆ Modifying a filter in the story will stop tracking changes on that filter;
 - ◆ ...

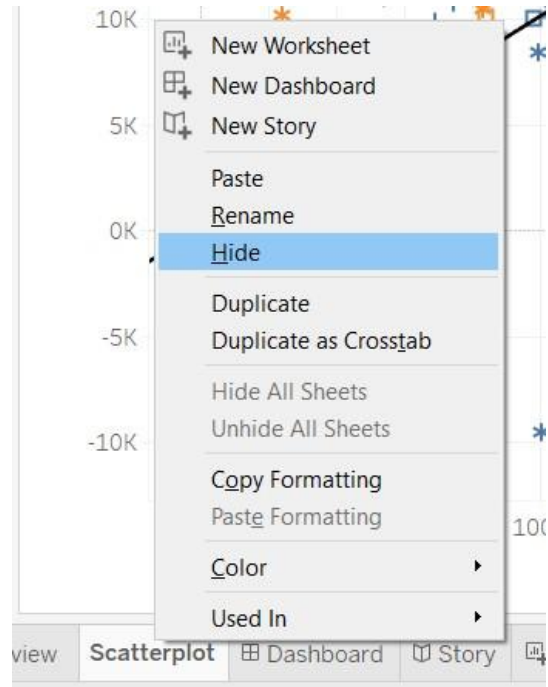
Hiding sheets

To keep your workbook clean, you can hide sheets that you do not want to be displayed.

How?

- Right click on the sheet you want to hide;
- Click **Hide**.

💡 Keep in mind that the option will only be available if the sheet you want to hide is in use either in a story or in a dashboard. Otherwise, the Hide option will be greyed out.

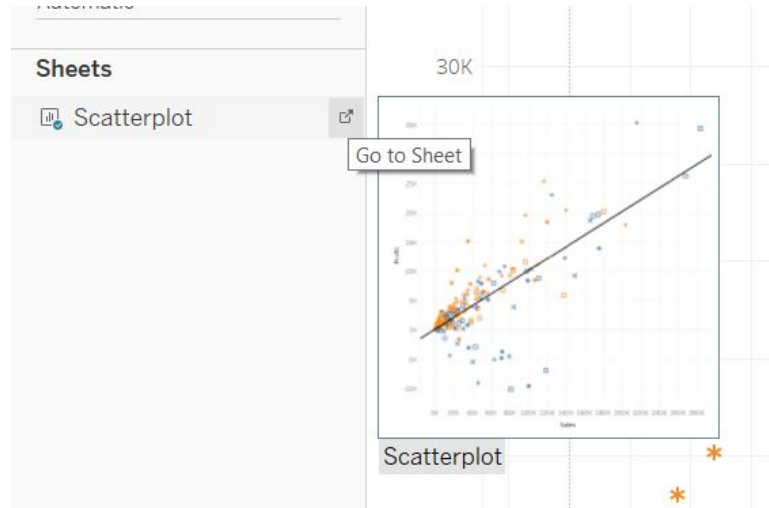


Hiding sheets

Suppose you have hidden a sheet but need to go back to it.

How can you do it?

- Go over to the sheet (e.g. a dashboard) where it's in use;
- Click on the small **Go to Sheet** icon in the Sheets pane on the right.



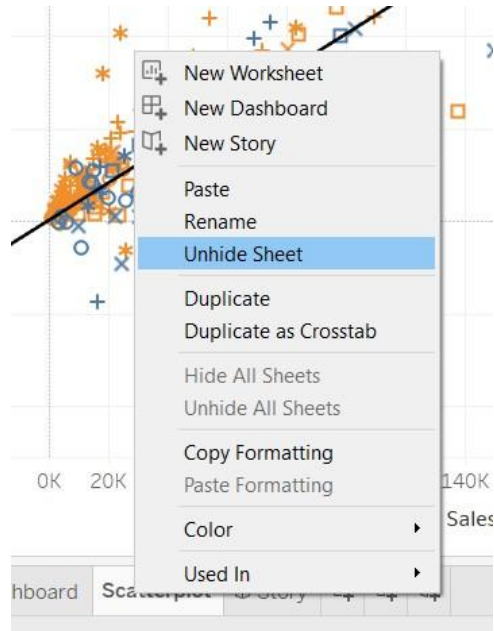
Unhiding sheets

Keep in mind that the **Go to Sheet** command will only temporarily bring back your hidden sheet and clicking it off will hide it again.

How can you unhide it?

- Right click on the sheet tab that has popped up after the **Go to Sheet** command;
- Click **Unhide Sheet**.

💡 Notice that you won't be able to visualize hidden sheets in the Sheets pane of any dashboard or story you might want to create.



Building a dashboard



Dashboard workspace

The **dashboard workspace** is different than the workspace of a sheet:

- The Data pane (with measures and dimensions) is replaced by the **Dashboard pane**;
- The list of data sources is replaced by a list of all the (unhidden) sheets in the workbook.

Dashboard

Layout <

Default

Phone

Device Preview

Size

Automatic ▾

Sheets**Objects** Horizontal☐ Blank Vertical Navigation Text Download Image Extension Web Page Ask Data Data Story Workflow

Tiled

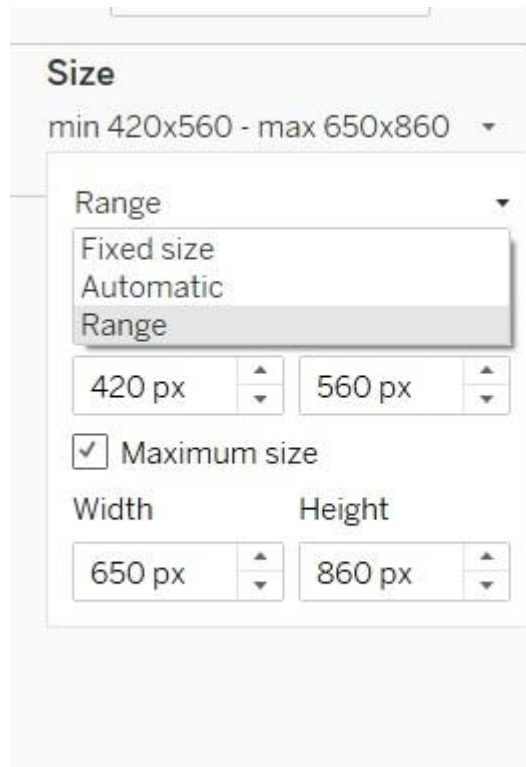
Floating

☐ Show dashboard title*Drop sheets here*

Dashboard size

In the **Size pane** you will be able to set the size of your dashboard, which can be.

- Fixed size: pre-set dimensions or the ability to set our own custom size;
- Range: set the boundaries for how large or small the dashboard can grow or shrink;
- Automatic: fill the available area.



Size
min 420x560 - max 650x860

Range

- Fixed size
- Automatic
- Range

420 px 560 px

☒ Maximum size

Width Height

650 px 860 px



Dashboard size

You can also turn on the **Device Preview** option to be able to simulate the appearance of your dashboard on multiple devices.





Create a dashboard

Let's create a dashboard to start off:

- Go to the **Dashboard** sheet and select the **Automatic size** in the Size pane;
- Duplicate the **Scatterplot** sheet and rename the new one **Another Scatterplot**;
- In **Another Scatterplot**, remove the **Market** data field from the Shapes shelf (so you only have circles in your chart).
- Add **Scatterplot** to **Dashboard** by simply dragging and dropping it onto the canvas

Dashboard

Layout <

Default

Phone

Device Preview

Size

Automatic

Sheets

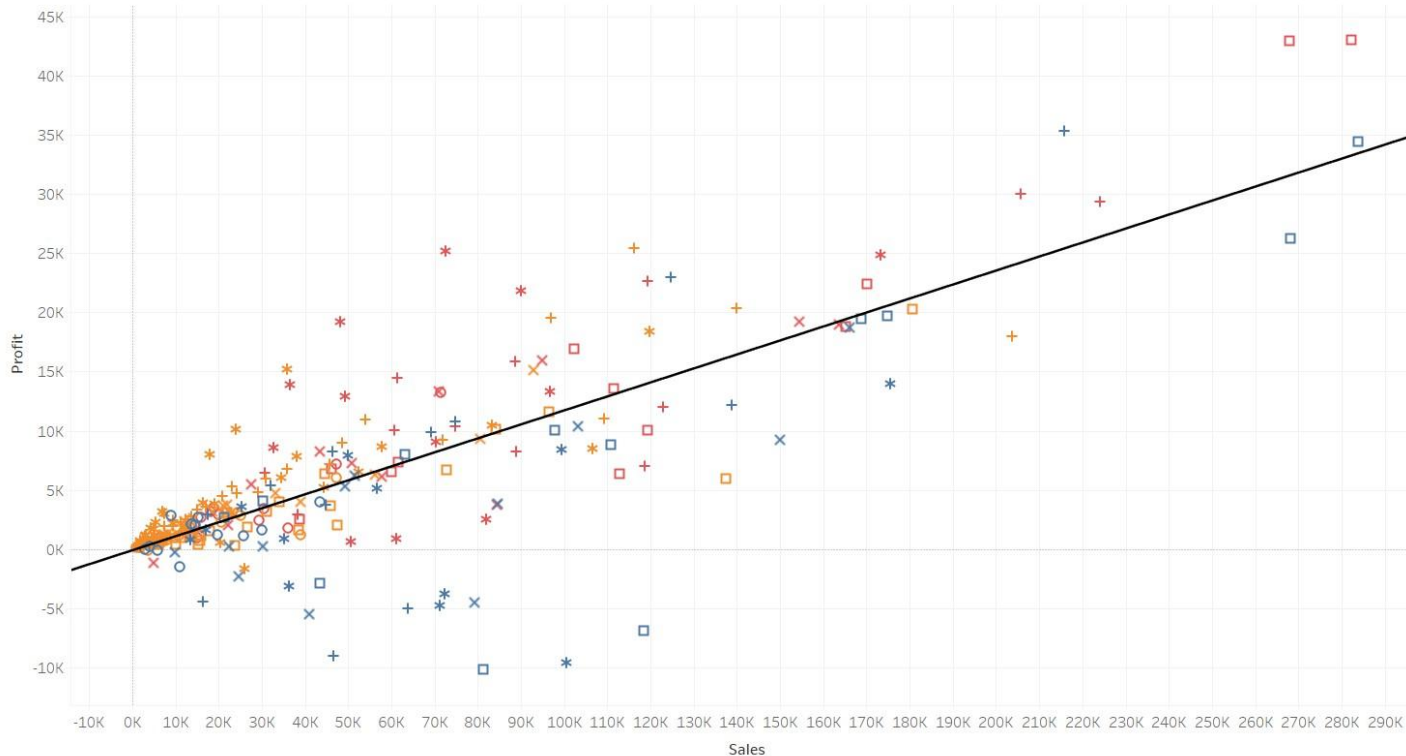
Scatterplot

Another scatter

Objects

- | | |
|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> Horizontal | <input type="checkbox"/> Blank |
| <input type="checkbox"/> Vertical | <input type="checkbox"/> Navigation |
| <input type="checkbox"/> Text | <input type="checkbox"/> Download |
| <input type="checkbox"/> Image | <input type="checkbox"/> Extension |
| <input type="checkbox"/> Web Page | <input type="checkbox"/> Ask Data |
| <input type="checkbox"/> Data Story | <input type="checkbox"/> Workflow |

Tiled Floating

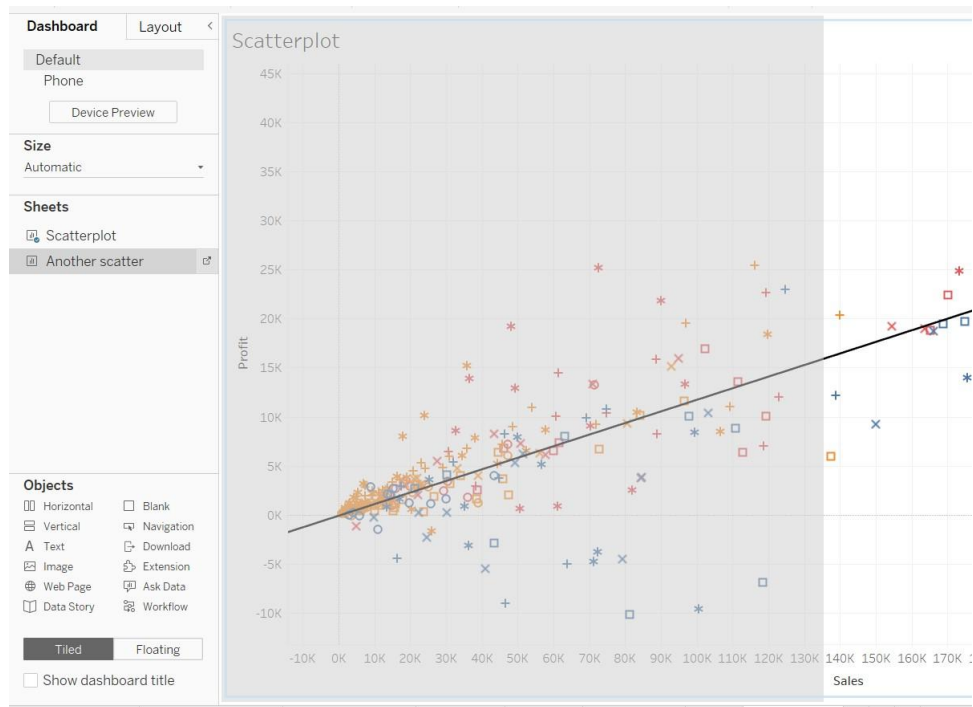
☐ Show dashboard title**Scatterplot**

Create a dashboard

Now, add **Another Scatterplot to Dashboard.**

You can drop the view onto the grey areas in your canvas.

We will position the new scatterplot below the first one, allowing it to take up all the available space in the lowest part of the dashboard.



Dashboard

Layout

Default

Phone

Device Preview

Size

Automatic

Sheets

Scatterplot

Another scatter

Objects

Horizontal

Vertical

Text

Image

Web Page

Data Story

Blank

Navigation

Download

Extension

Ask Data

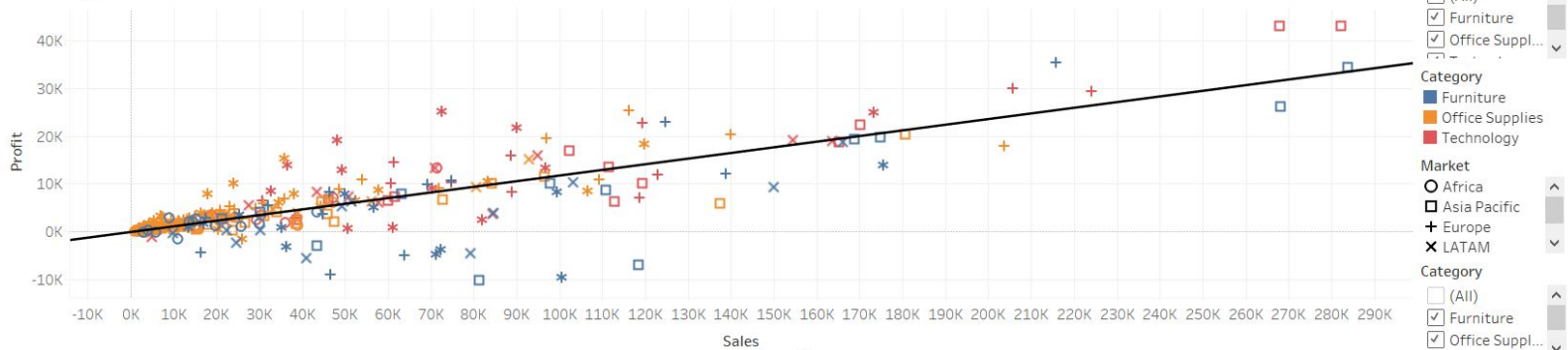
Workflow

Tiled

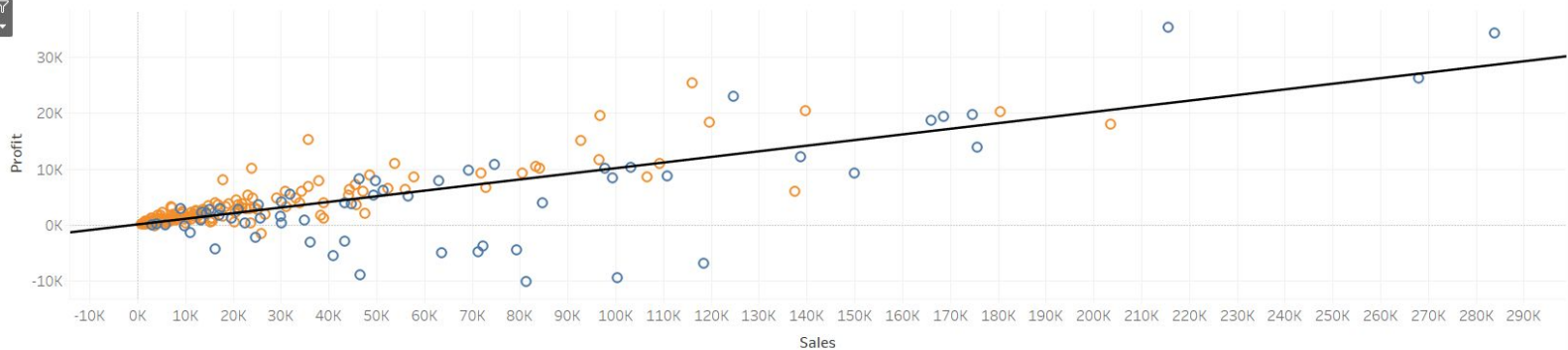
Floating

Show dashboard title

Scatterplot



Another scatter



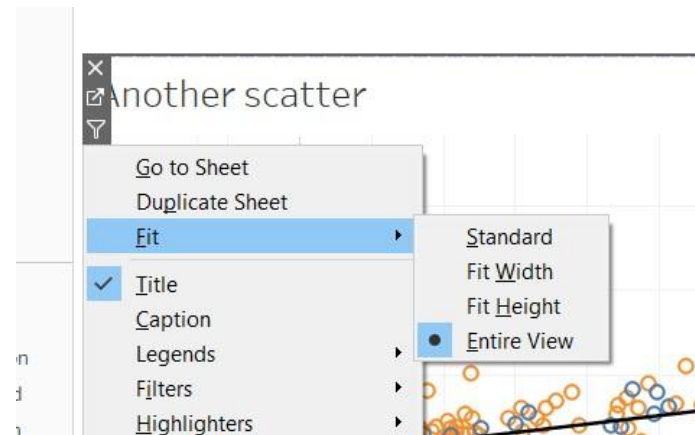
Customizing the dashboard

Fitting the view into the dashboard

Each view that you bring into the dashboard will have a standard size, which is defined by the space that it has available when you drag it in.

How can we change this behaviour?

You can manually adjust the size by using the small dropdown menu on the view and select **Fit**. This option will prevent your chart from scrolling or appearing either too small or too big on the dashboard.

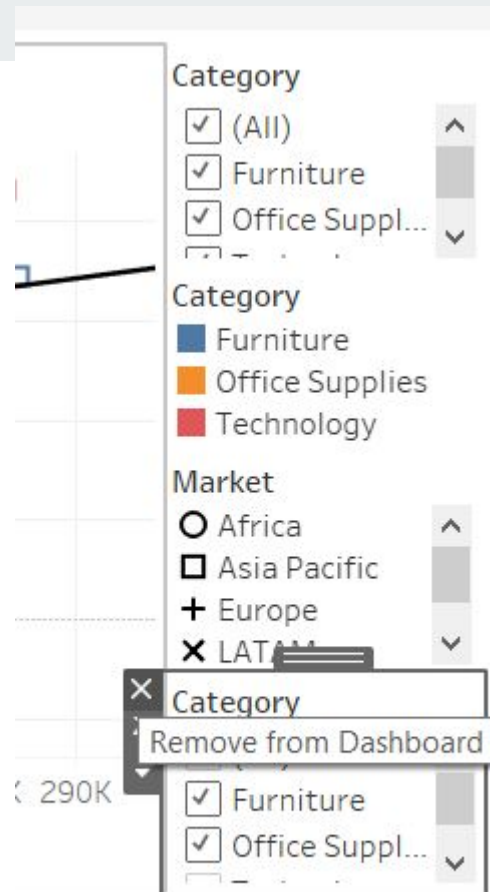


Customizing the dashboard

Removing pre-existing filters

Filters are brought into the dashboard along with the view they belong to. In our case, you will find two **Category** filters as both our views had one.

We can simply remove them using the **✖** icon (**Remove from dashboard**) on the filter menu.



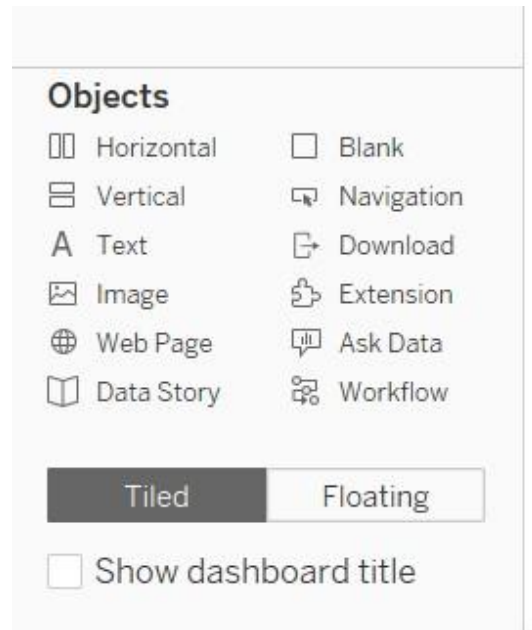


Customizing the dashboard

The Objects pane

Now, suppose you want to customize the appearance of your dashboard by adding an image or logo.

You can do that by using the **Objects** pane on the left of your canvas.

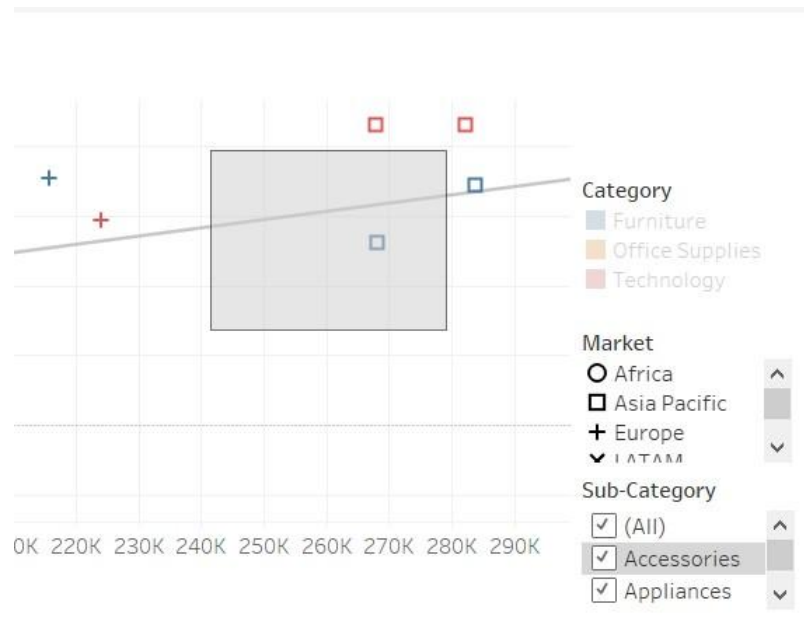


Customizing the dashboard

When you drag a sheet and drop it onto the canvas, you will see some **grey areas** being highlighted.

This areas are displayed according to a standard layout. This is called **tiled behaviour**.

If you want you charts to float instead of being forced to fit into the grey areas, simply swap to **Floating**.



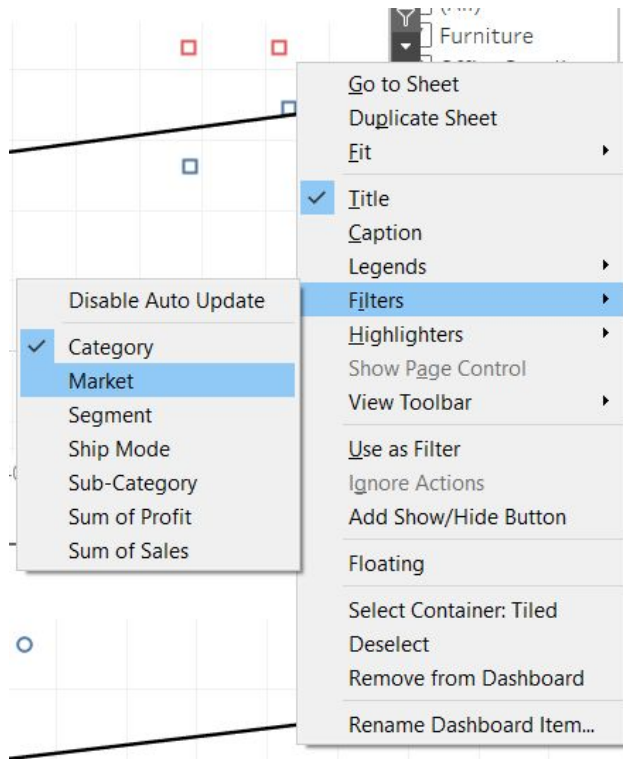
Customizing the dashboard

Adding new filters

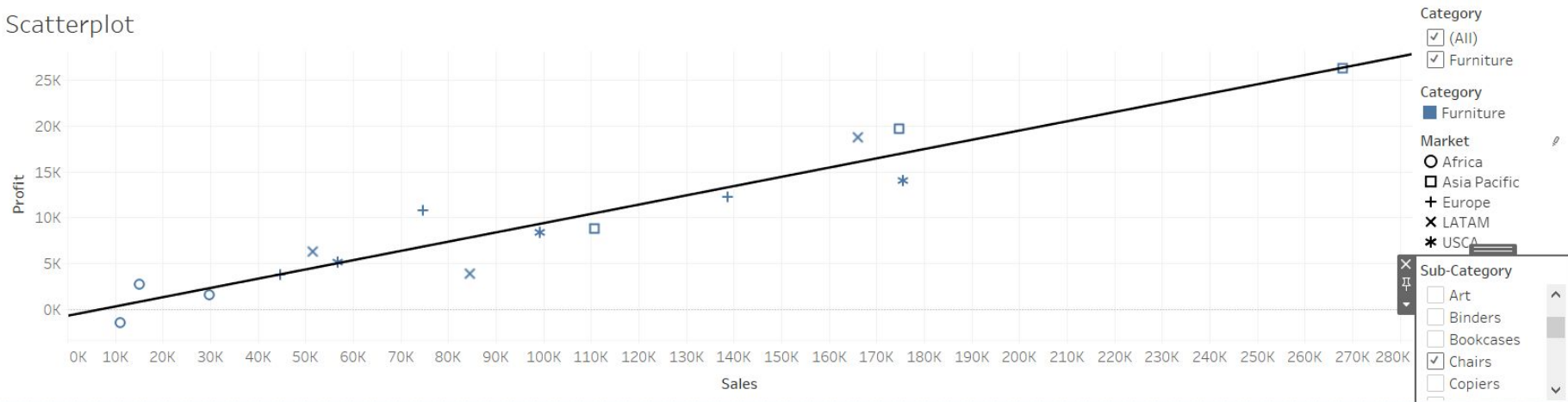
Suppose you want to add another filter to the view:

- Click on the view's dropdown menu caret and select **Filters**;
- Choose the filter you want to display – we'll go with **Sub-category** for the sake of simplicity – and customize the filter as you would on an ordinary view.

Now, use the **Sub-category** filter to display only **Chairs**.



Scatterplot

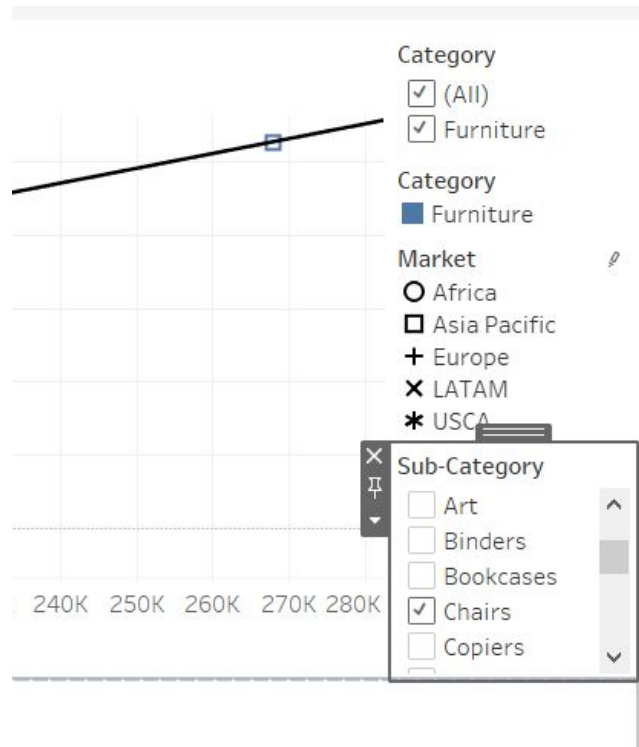


Another scatter

Customizing the dashboard

Adding new filters

Notice that the filter will also impact on all the other legends and filters you have added to the dashboard (**Category** legend and filter only display the **Furniture** category, which is the one **Chairs** belong to).





Customizing the dashboard

Adding new filters

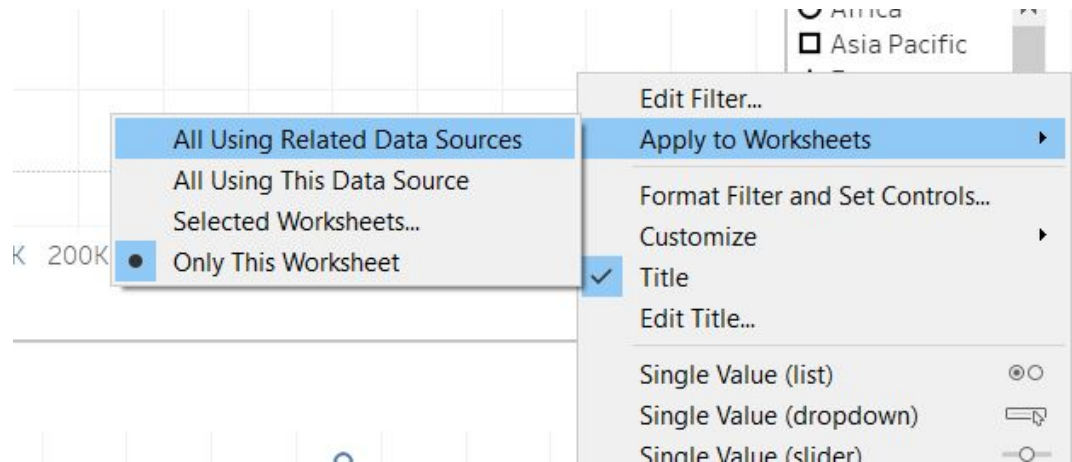
Notice that, by default, the **Chairs** filter will only be applied to the view it came with (meaning that it will not impact on the **Another Scatterplot** view).

How can we extend the filter to Another Scatterplot?

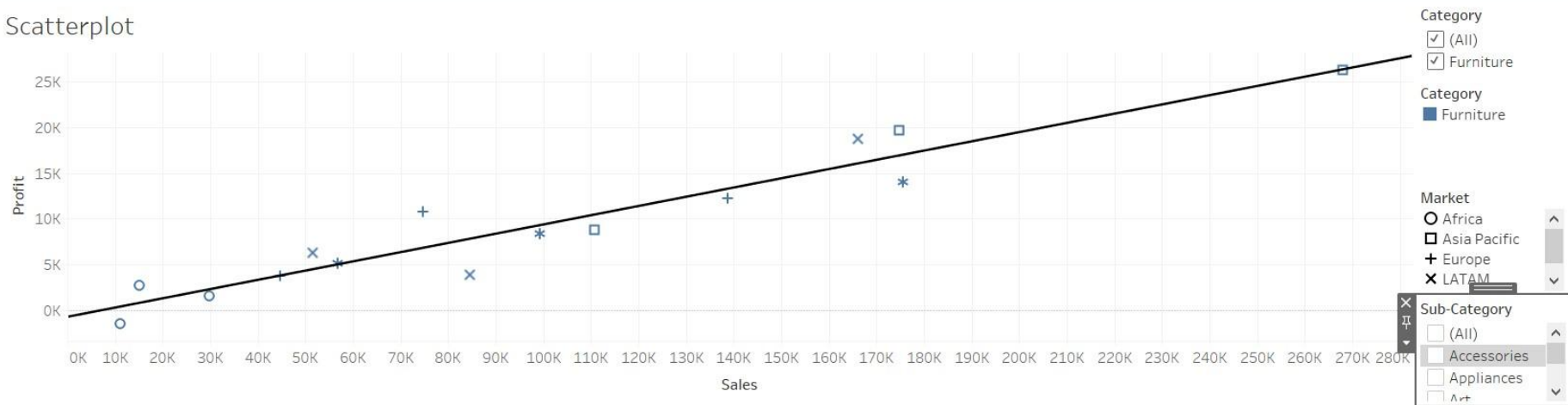
Customizing the dashboard

Adding new filters

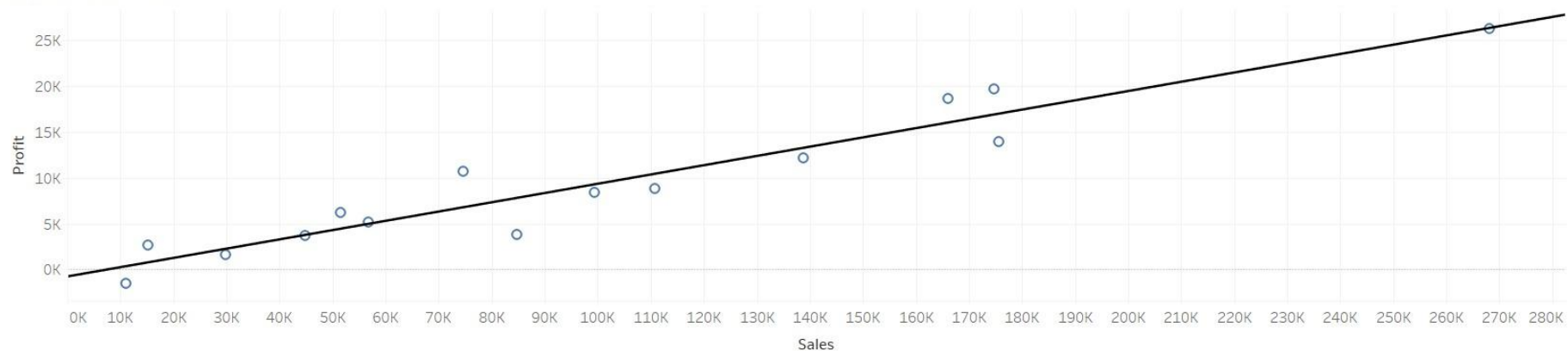
To make filters operate on all the views you have imported in the dashboard, click on the dropdown menu caret on the filter menu, select **Apply to Worksheets > All Using Related Data Sources**.



Scatterplot



Another scatter



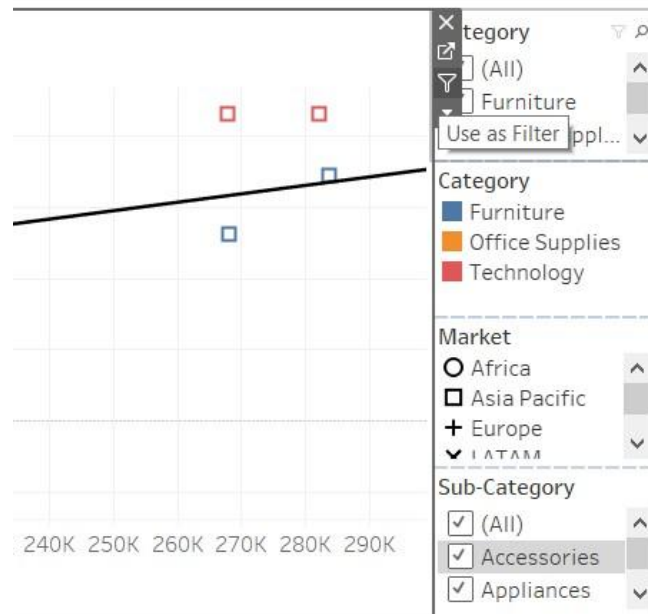
Customizing the dashboard

Using views as filters

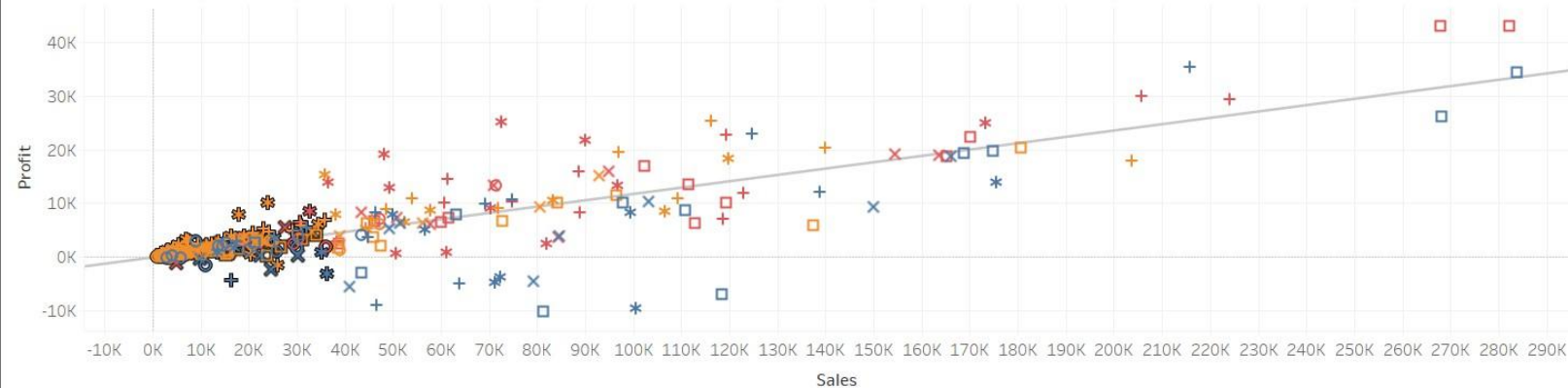
To filter out elements across the entire dashboard, you can simply select them in a reference view (e.g. **Scatterplot**) and all the other views will be filtered accordingly.

To do so, click on a view to toggle the header bar and click on the filter icon (**Use as filter**).

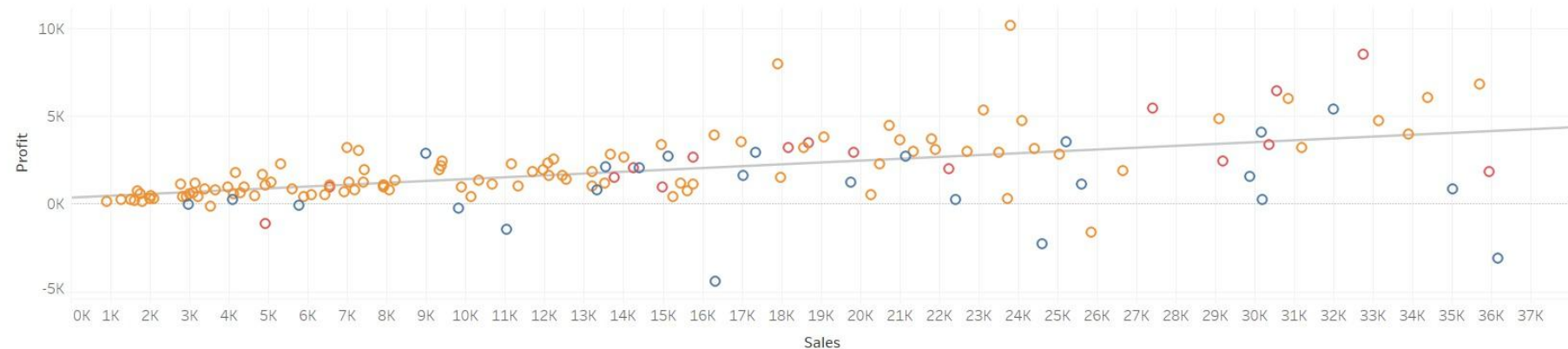
Select a certain range of points in our scatterplot and see the other view in the dashboard being filtered according to the group of points we have selected.



Scatterplot



Another scatter





15 minute break

Answer the Wooclap when you come back:




[Wooclap here!](#)

Up next:

- 10 minutes to answer the Wooclap
- It's time to work on your projects

Play around with what we've seen today with different data sources (or start working on your projects)

Additional free data sources are available 
[here](#)

Recap and lessons learned



Recap

- Dashboards and stories:
 - ◆ Differences;
 - ◆ Dashboard interface.
- Customizing a dashboard:
 - ◆ Sizing;
 - ◆ Filers;
 - ◆ Dynamic highlighting.



Takeaway

Link to the solution workbook for the lesson:  TBD