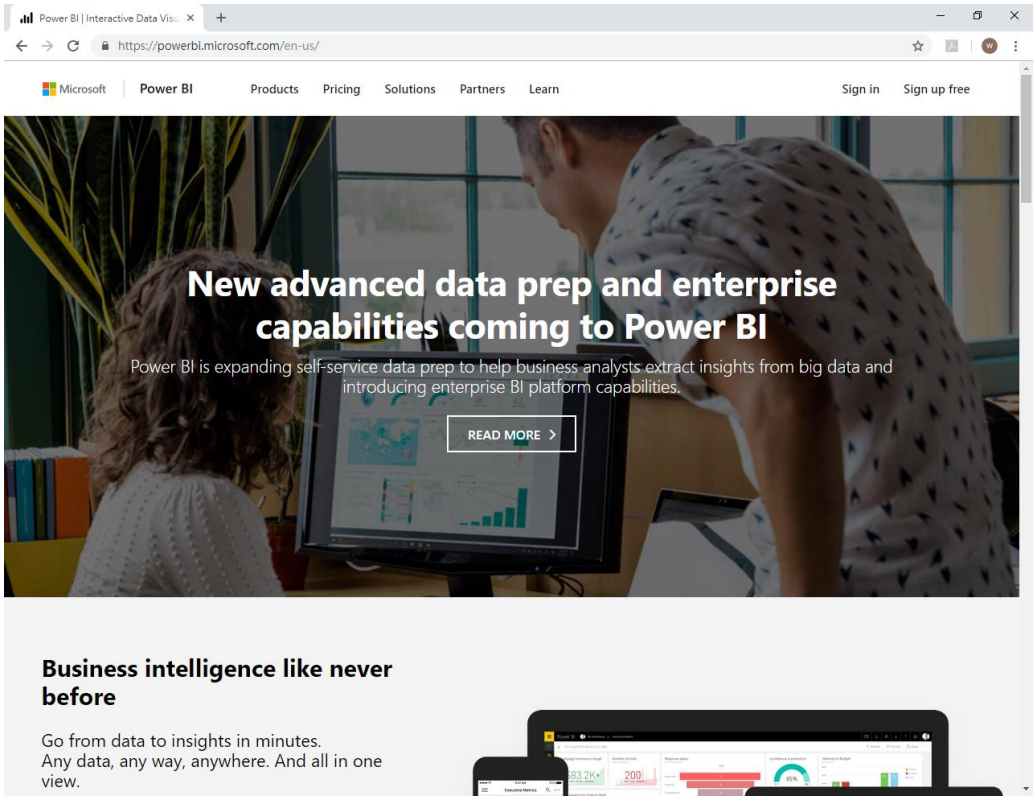
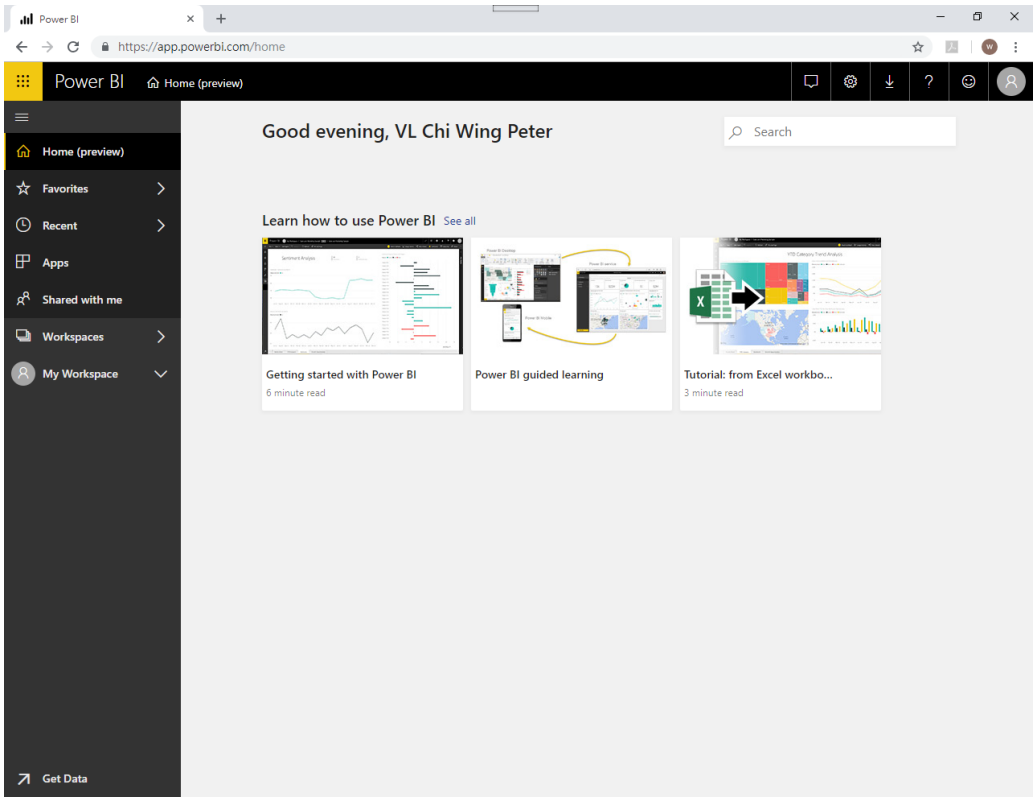
1. Overview

1.1 Sign in PowerBI

1. Go to http://www.PowerBi.com and sign in

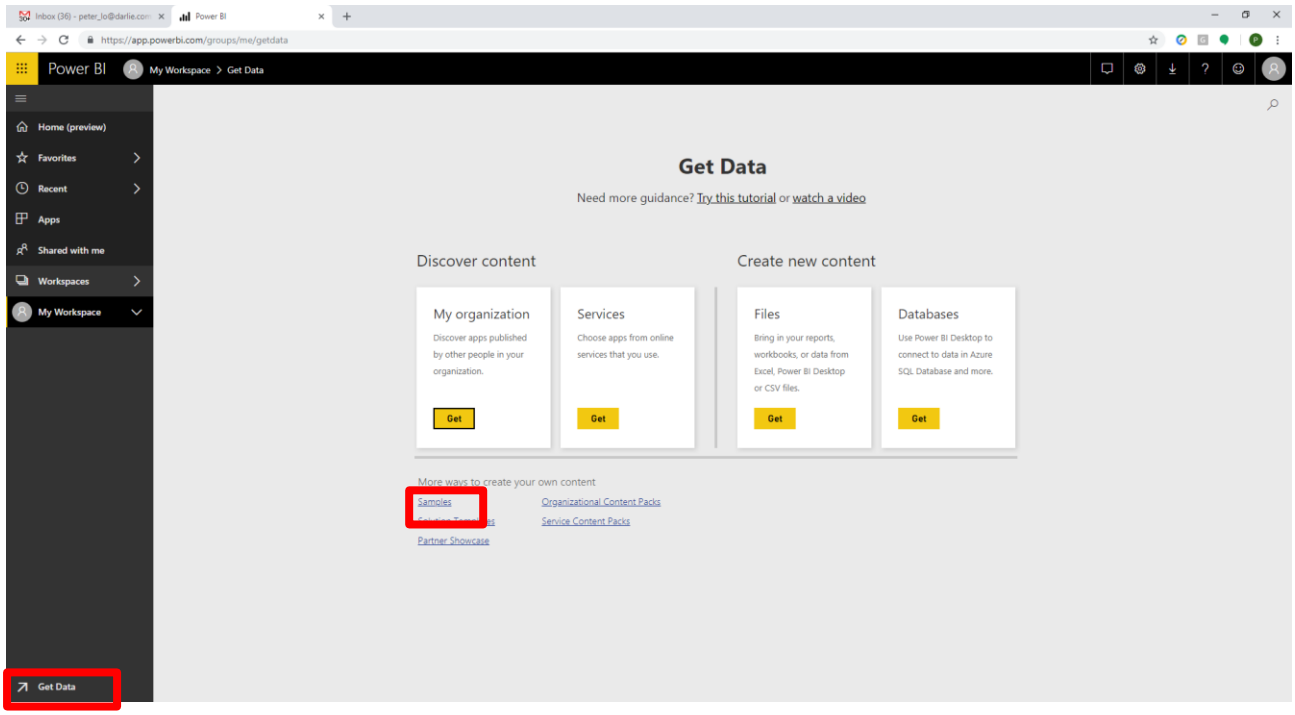


2. Once you sign in PowerBI, the following welcome screen display

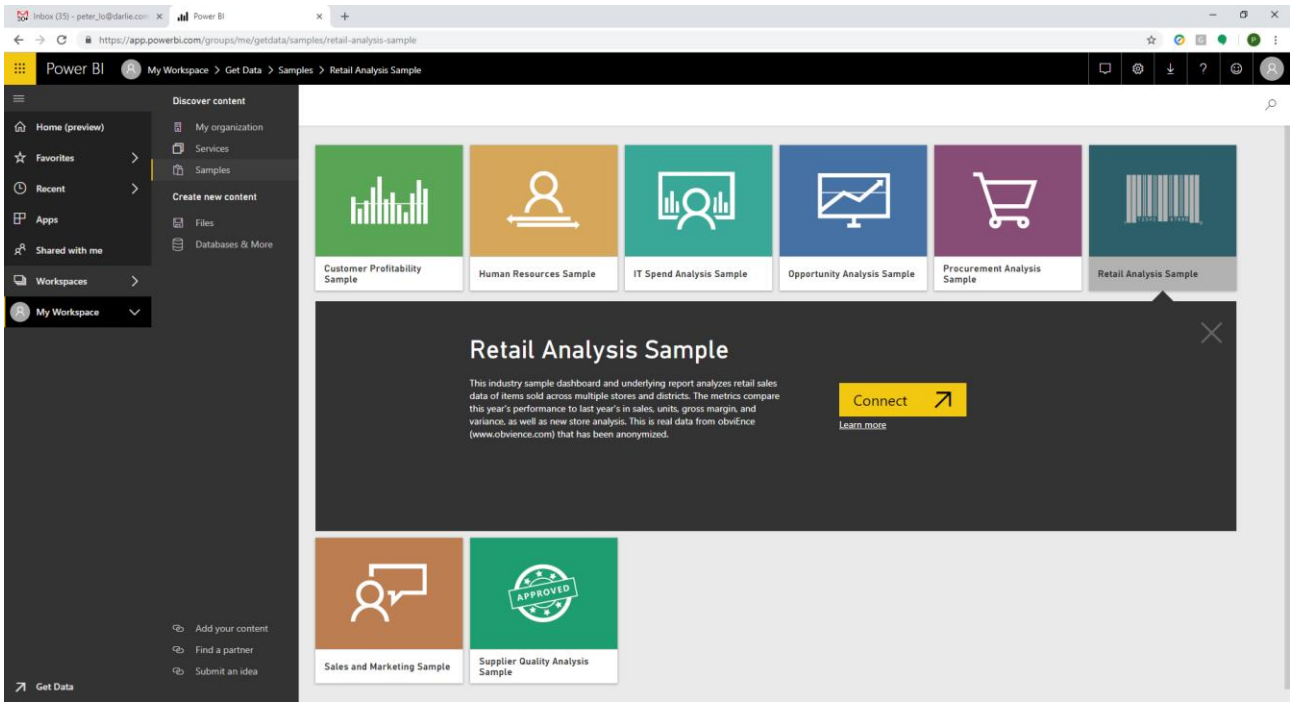


1.2 Open Power BI Service and Get Data

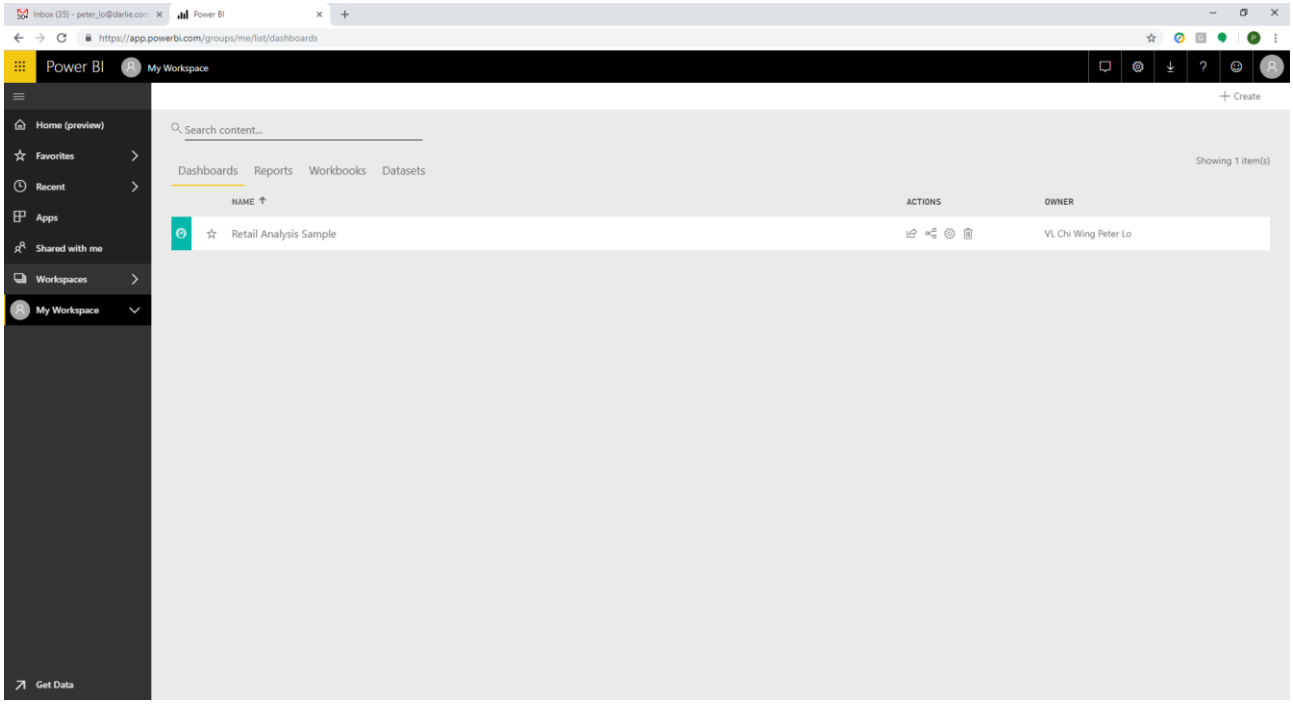
1. We'll grab some sample data to use for our tour of Power BI service. There are all types of sample data we provide for you to explore, and this time we'll use the data about retail stores. Press **[Get Data]** and then select **"Sample"**.



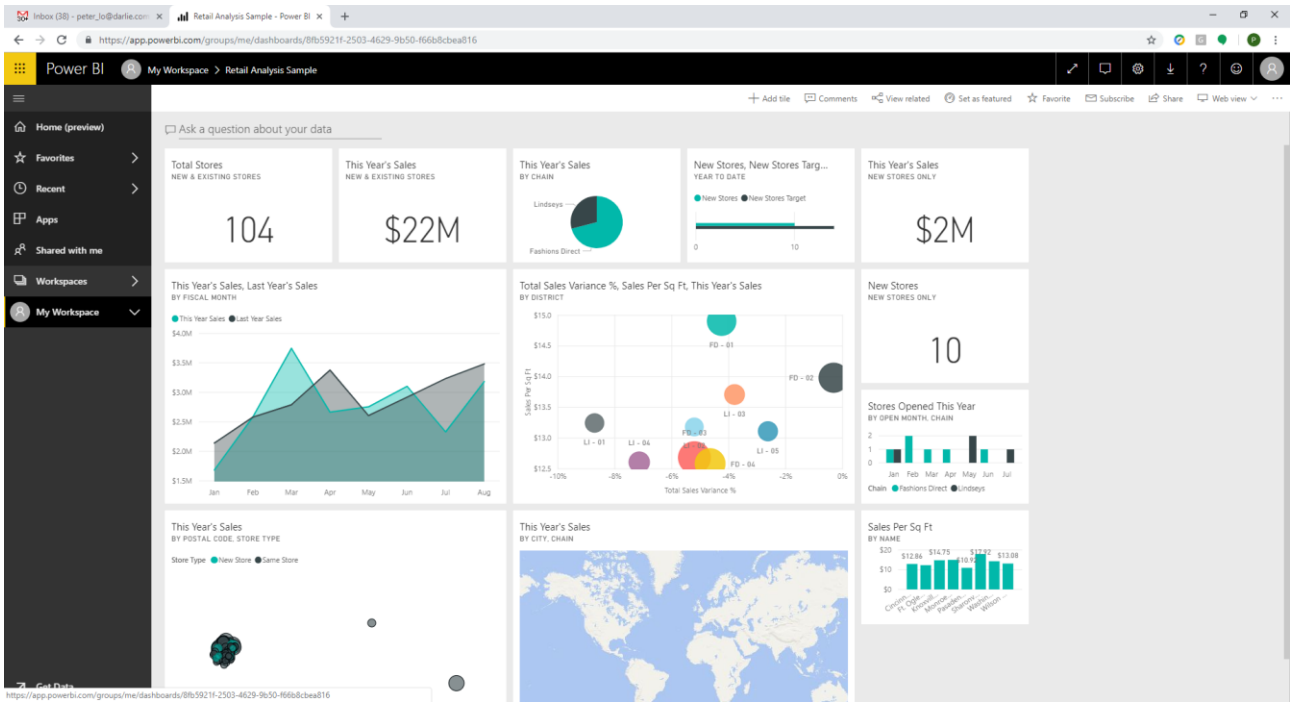
2. Select the "**Retail Analysis Sample**" and click **[Connect]**.



3. Power BI imports the sample, adding a new dashboard, report, and dataset to your My Workspace.

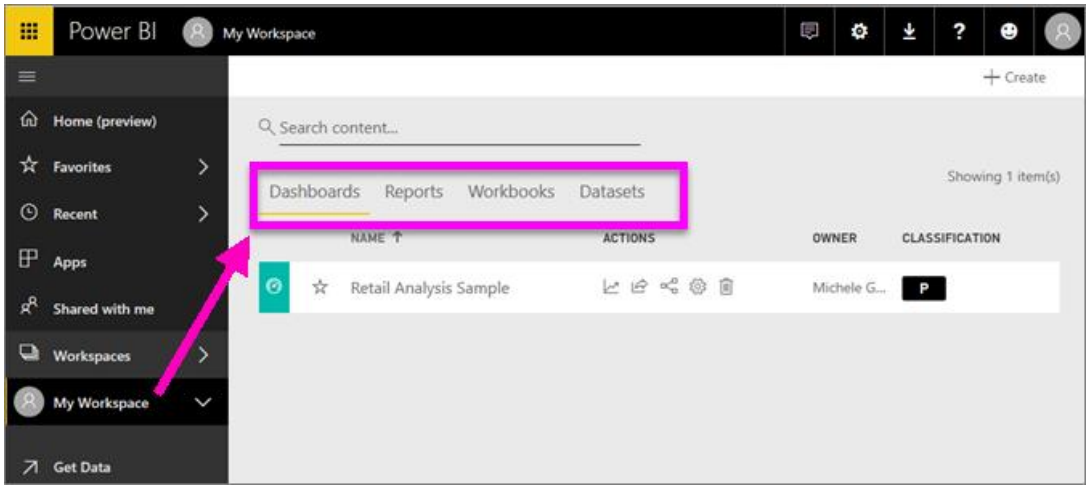


4. Power BI service imports the sample and displays the dashboard. Dashboards are something that differentiates Power BI service from Power BI Desktop. The sample also includes a report and a dataset, which we'll visit later.



1.3 View Content

1. Let's start by looking at how the basic content (dashboards, reports, datasets, workbooks) is organized. Content is displayed within the context of a workspace. My Workspace stores all the content that you own. My workspace is where the Retail Analysis sample you just downloaded is saved. Within My Workspace, your content is organized into 4 tabs: Dashboards, Reports, Workbooks, and Datasets.



2. Within those tabs (aka content views), you'll see information about the content as well as actions you can take with that content. For example, from the Dashboards tab you can open a dashboard, search, sort, and much more

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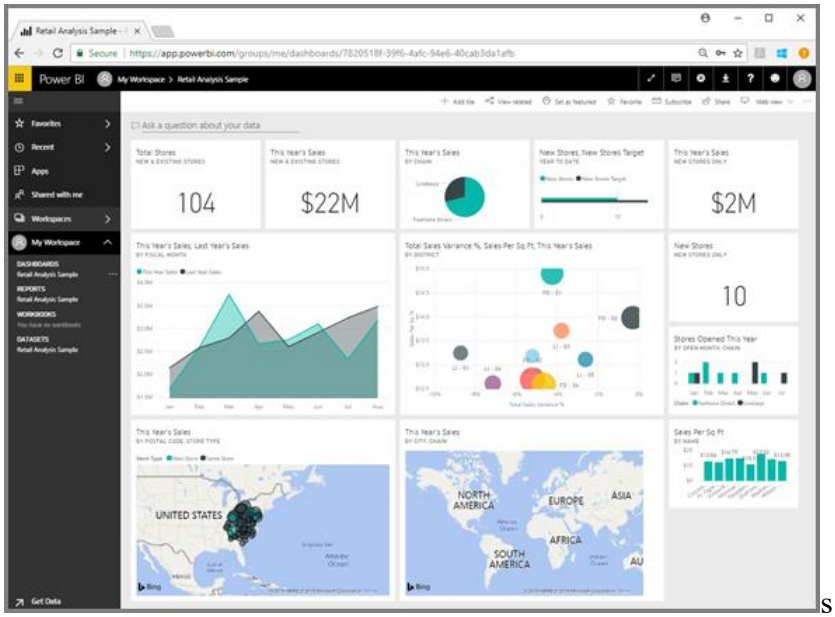
3. Open the dashboard by selecting the dashboard name



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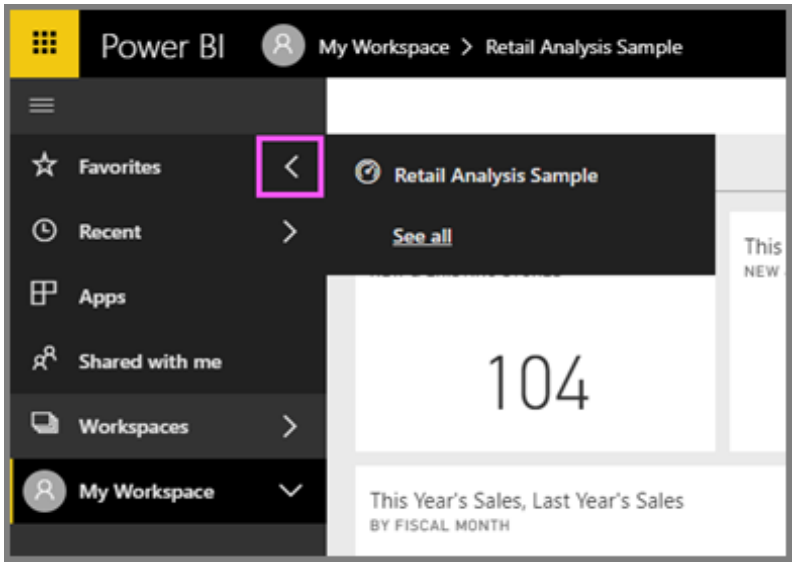
1.4 Favorite Dashboard and Report

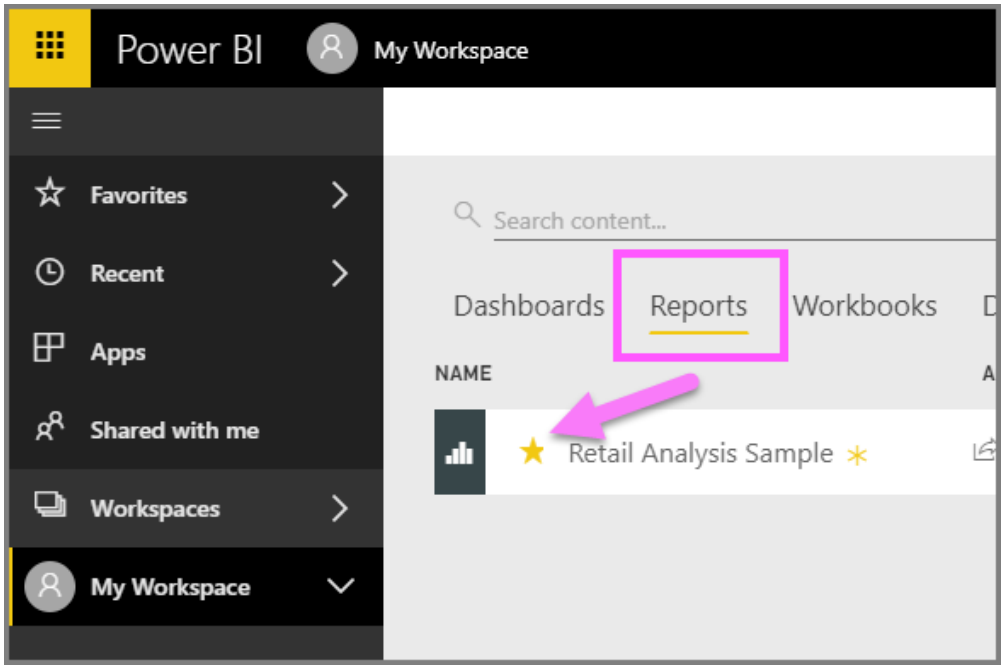
1. Favorites lets you quickly access content that is most important to you. With the dashboard open, select Favorite from the upper right corner.

2. Favorite changes to Unfavorite and the star icon become yellow.

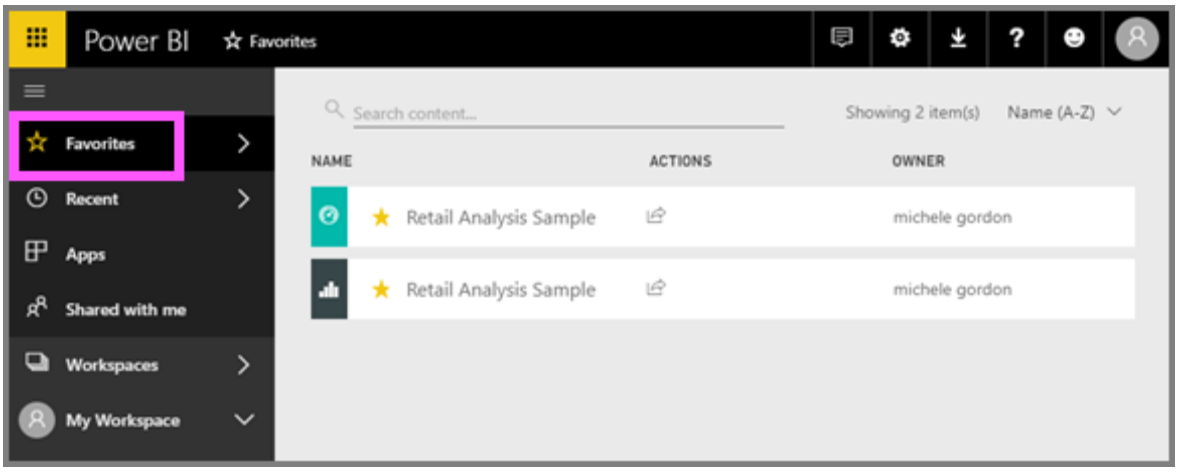
3. To display a list of all the content that you have added as favorites, in the left navpane, select the arrow to the right of Favorites. Because the left navpane is a permanent feature of Power BI service, you have access to this list from anywhere in Power BI service.



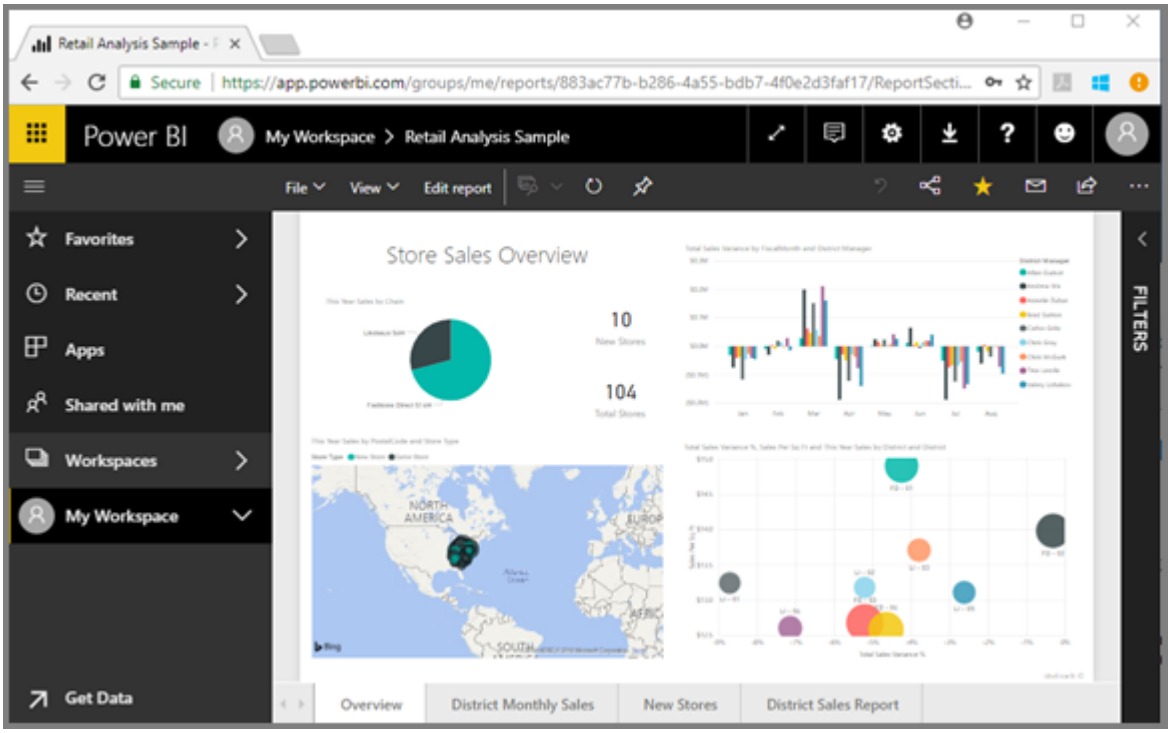
4. Another way to mark either a dashboard or report as a favorite is from the Dashboards or Reports content view tab. Open the Reports tab, and select the star icon to the left of the report name.



5. Open the Favorites pane, by selecting Favorites from the left navpane or by selecting the star icon.

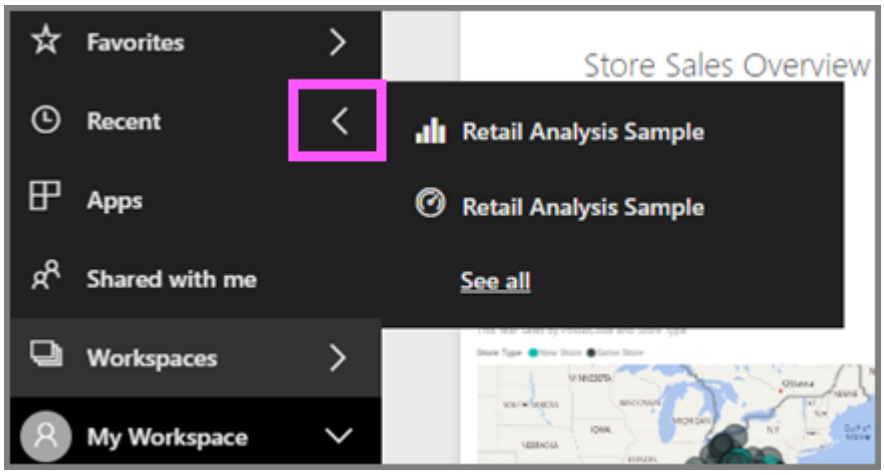


6. You now have two favorites, one a dashboard and one a report. From here you can open, search, unfavorite, or share content with colleagues. Select the report name to open it in the report editor.

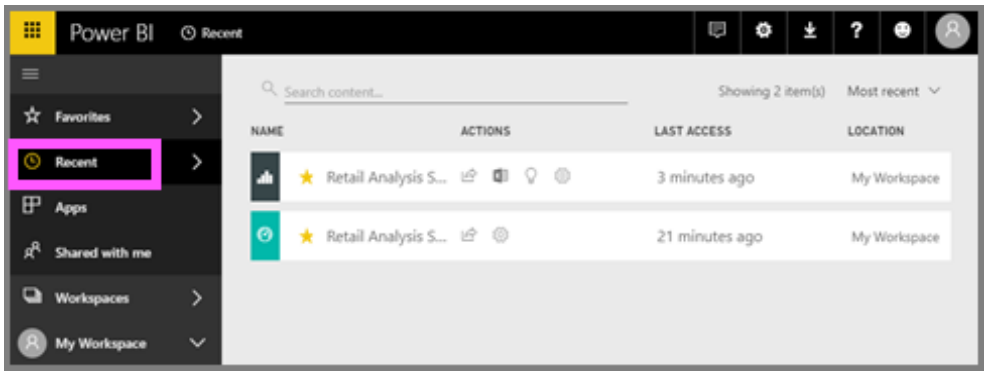


1.5 Locate your Most Recent Content

1. Similar to Favorites, quickly see your most recently accessed content from anywhere in Power BI service by selecting the arrow next to Recent in the left navpane.

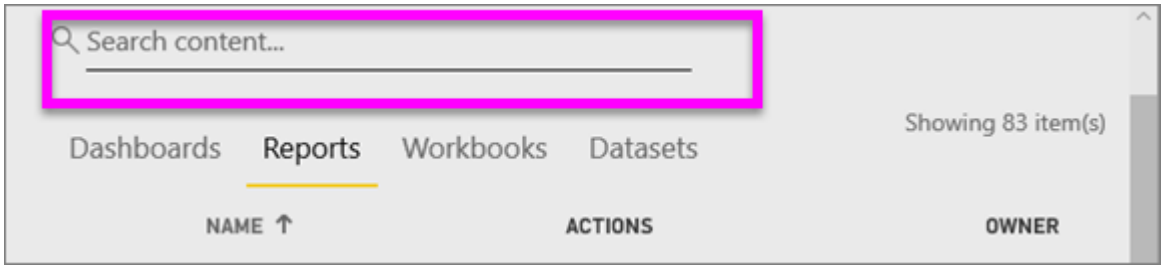


2. Sometimes you don't want to simply open recent content, but want to view information or take other action, such as view Insights, or export to Excel. In cases like these, open the Recents pane by selecting Recent or its icon from the left navpane. If you had more than one workspace, this list would include content from all of your workspaces.

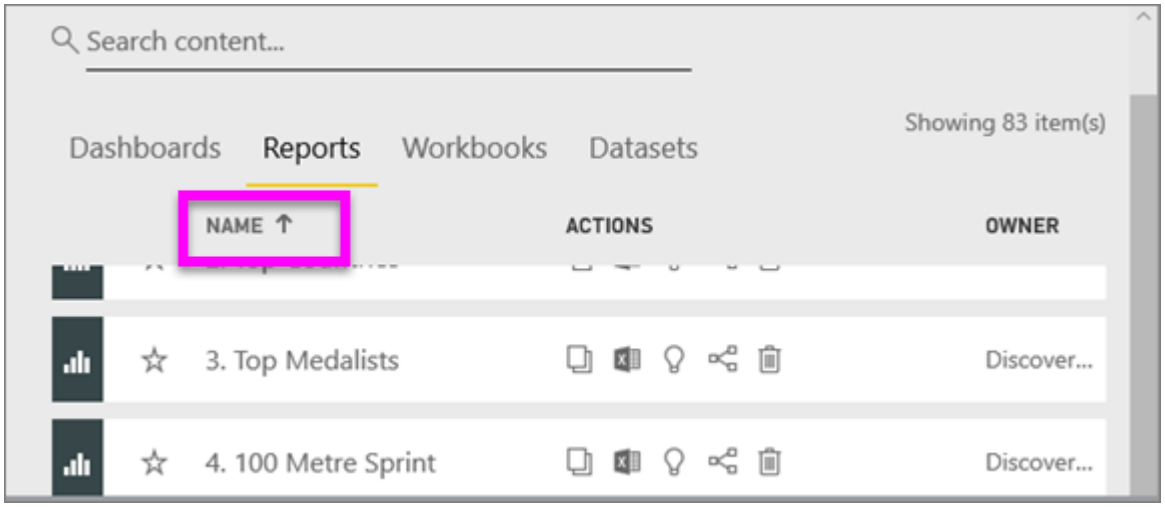


1.6 Search and Sort Content

1. The content view makes it easier to search, filter and sort your content. To search for a dashboard, report or workbook, type in the search area. Power BI filters to only the content that has your search string as part of the name. Since you only have one sample, searching and sorting isn't necessary. But when you have long lists of dashboards, reports, workbooks, and datasets, you'll find searching and sorting extremely helpful.



2. You can also sort the content by name or owner. Notice the up arrow to the right of Name. We're currently sorting 83 items alphabetically by name, ascending. To change the sort order to descending, select Name. The up arrow changes to a down arrow. Not all columns can be sorted. Hover over the column headings to discover which are able to be sorted.

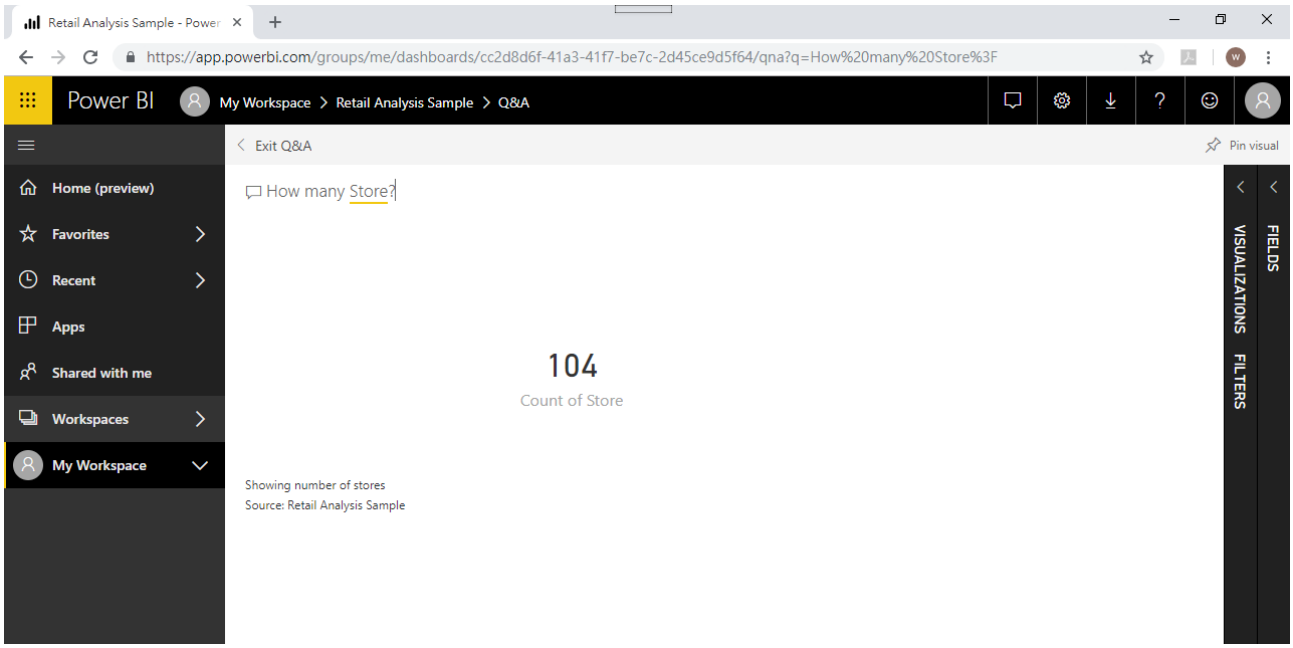


1.7 Q&A for Power BI

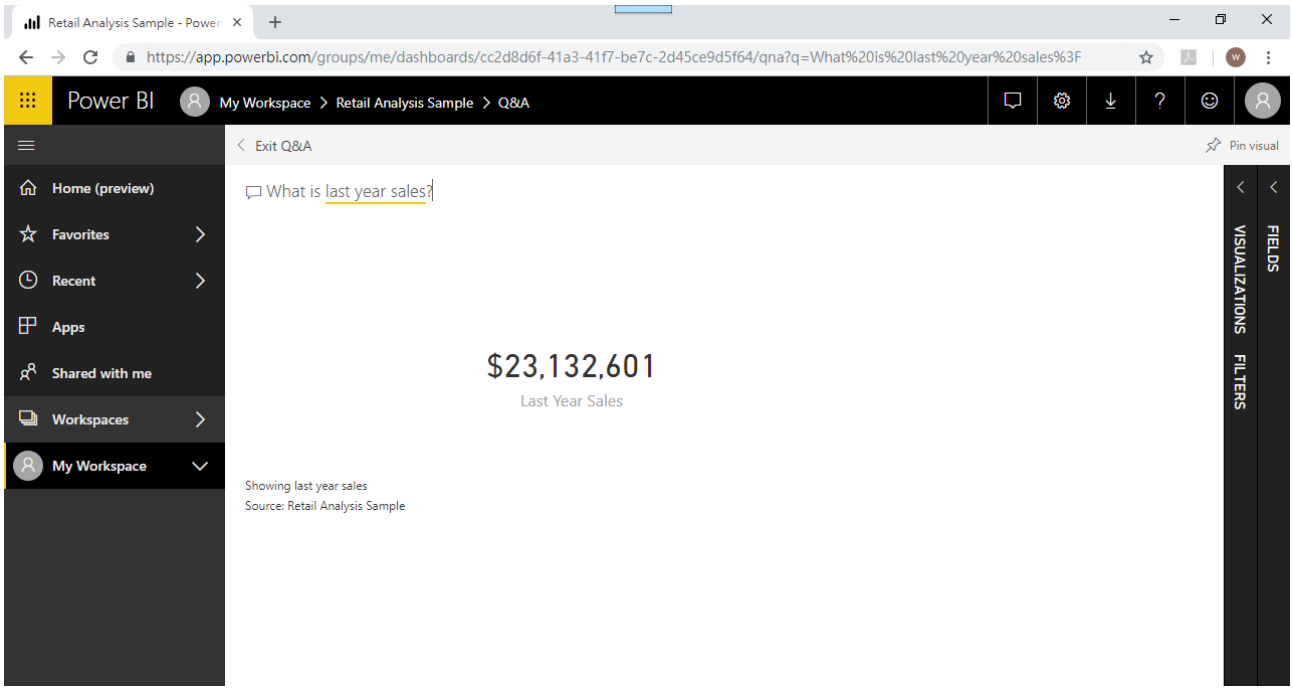
You'll find Q&A on dashboards in Power BI service, at the bottom of the dashboard in Power BI mobile, and above the visualization in Power BI Embedded. Unless the designer has given you edit permissions, you'll be able to use Q&A to explore data but won't be able to save any visualizations created with Q&A.

Q&A looks for answers in all of the datasets associated with the dashboard. If a dataset has a tile on the dashboard, then Q&A will look in that dataset for answers

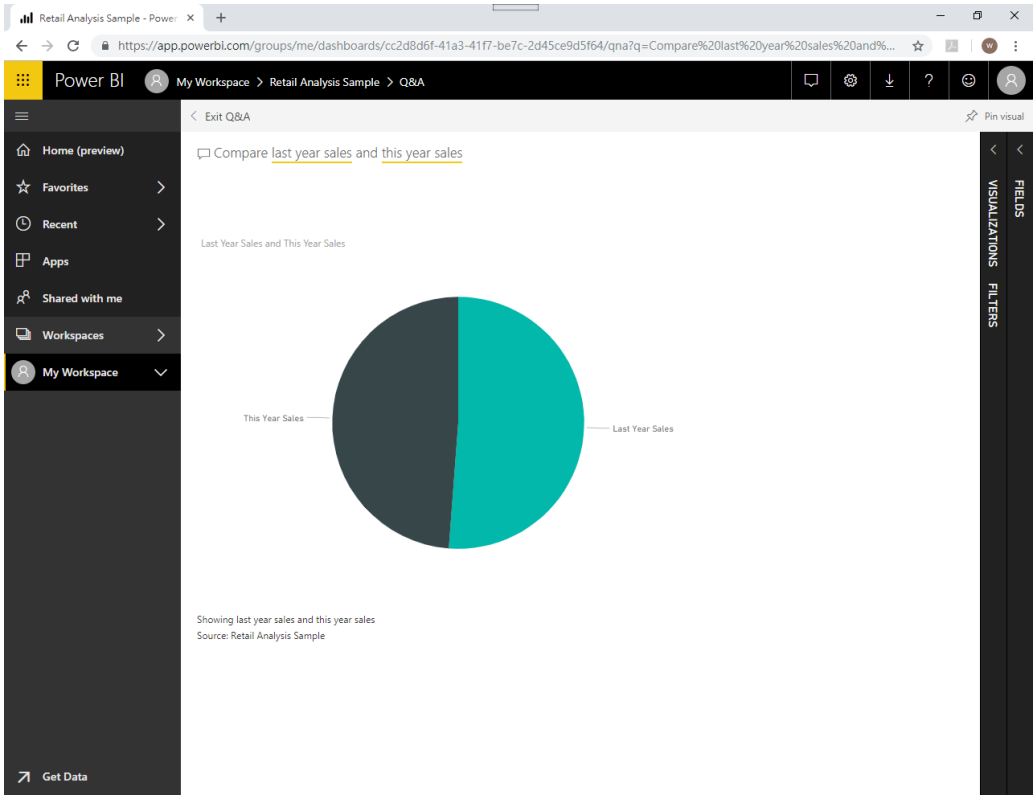
1.7.1 How many Store?



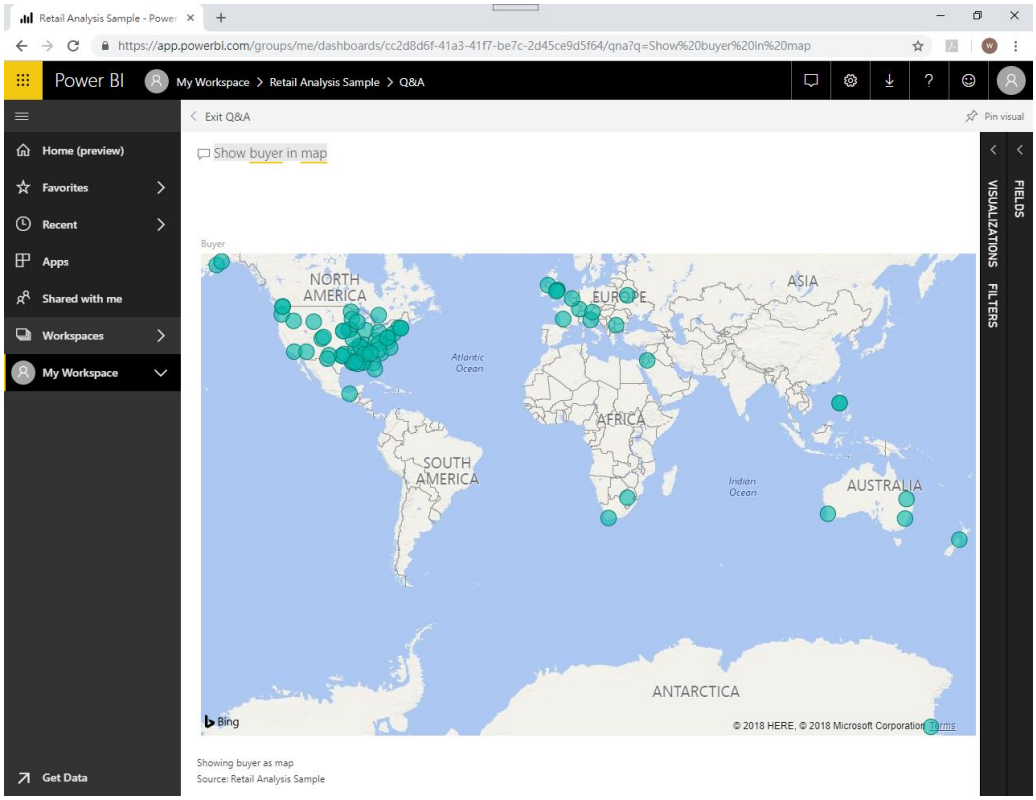
1.7.2 What is last year sales?



1.7.3 Compare last year sales and this year sales



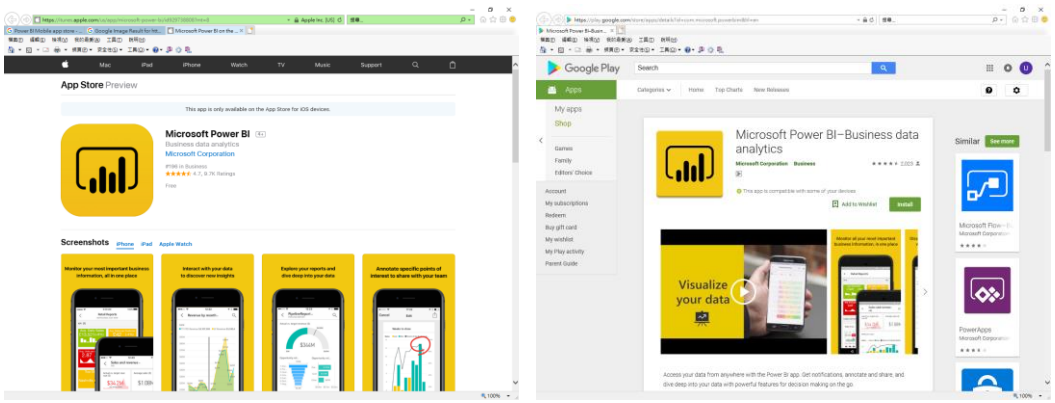
1.7.4 Show buyer in map



2. Power BI Mobile

2.1 Download Power BI Mobile

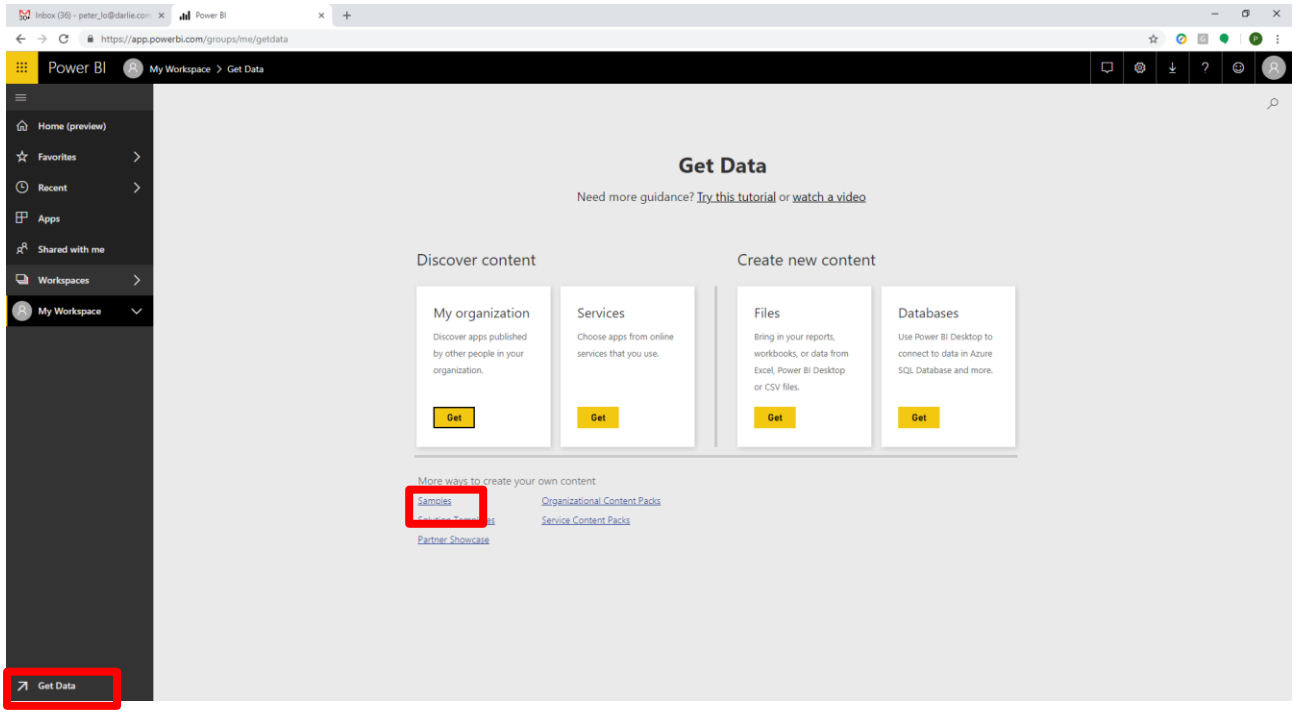
1. Download and install Microsoft Power BI Mobile from App Store or Google Play



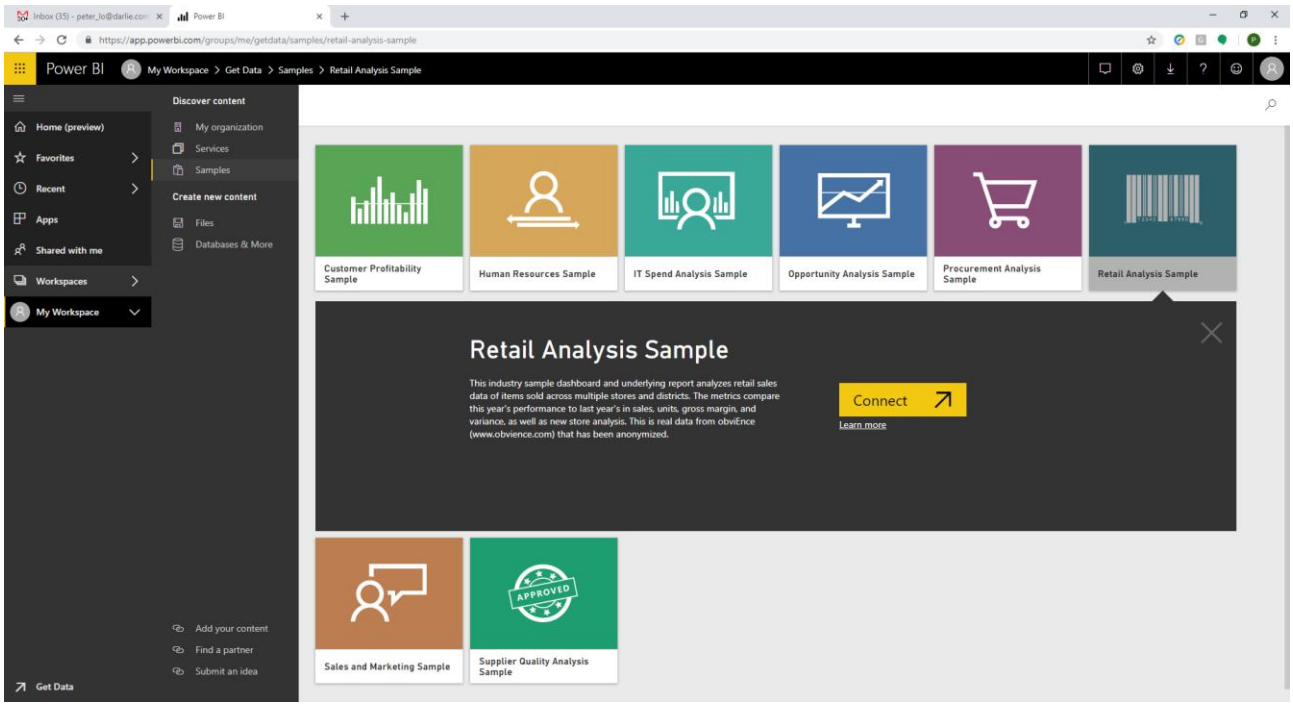
2.2 Explore Dashboards and Reports

2.2.1 Install Retail Analysis Sample

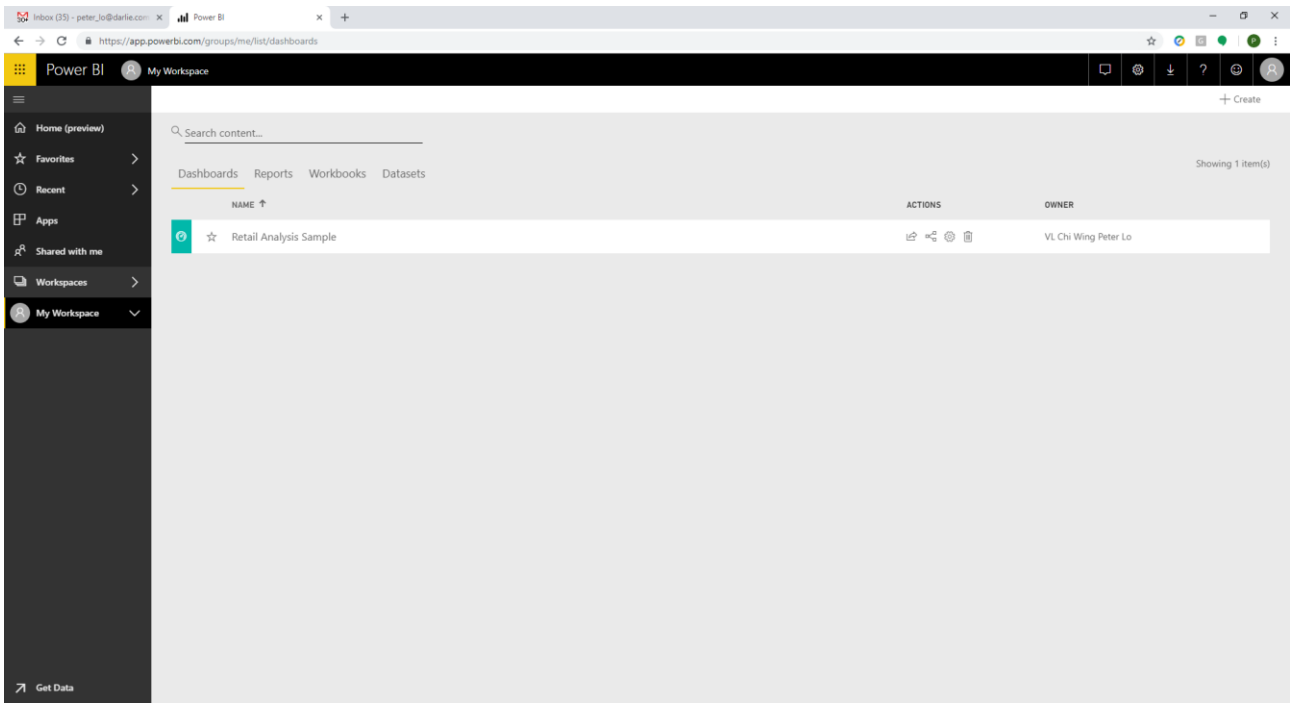
1. The first step in the quickstart is to download the Retail Analysis sample in the Power BI service. Open the Power BI service in your browser (app.powerbi.com) and sign in. Select the global navigation icon to open the left navigation. In the lower-left corner select “Get data” and the “Samples” icon.



2. Select the Retail Analysis sample and click Connect.

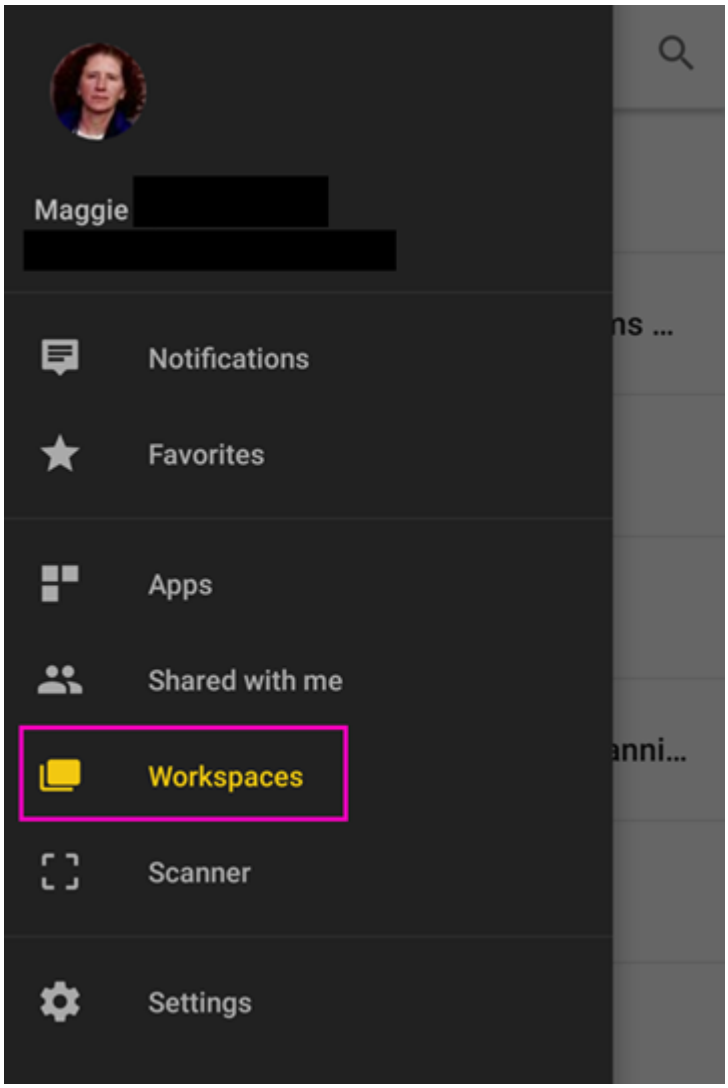


3. Power BI imports the sample, adding a new dashboard, report, and dataset to your My Workspace.

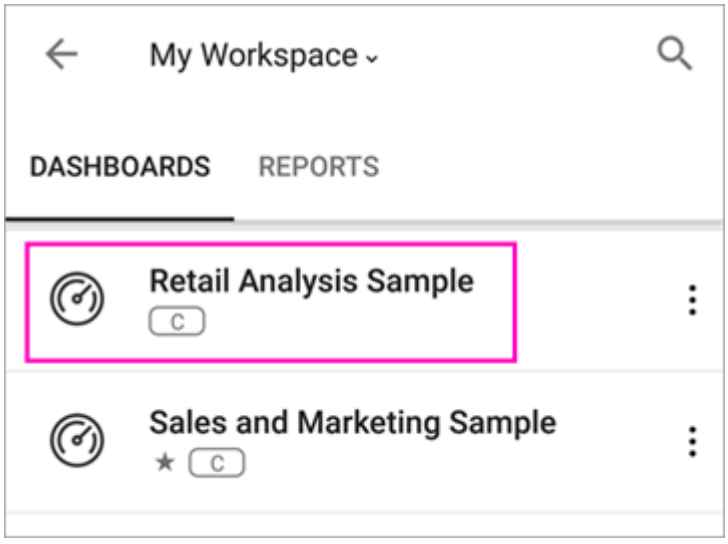


2.2.2 View Dashboard on Mobile Device

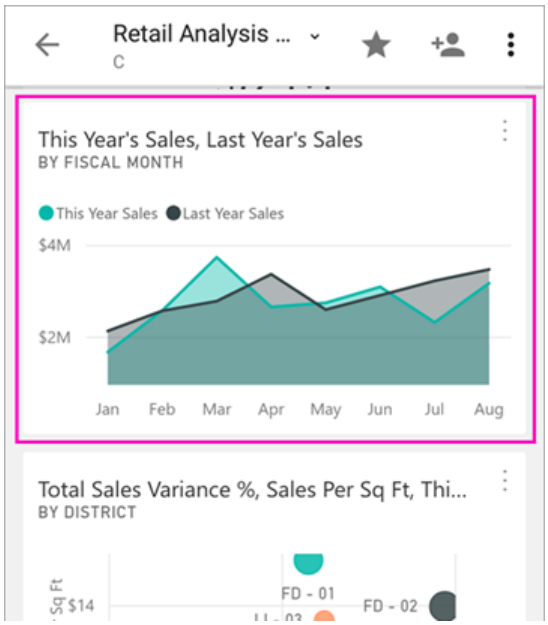
1. Open the Power BI app and sign in with your Power BI account credentials, the same ones you used in the Power BI service in the browser. Tap the global navigation button Global navigation button. Tap Workspaces > My Workspace



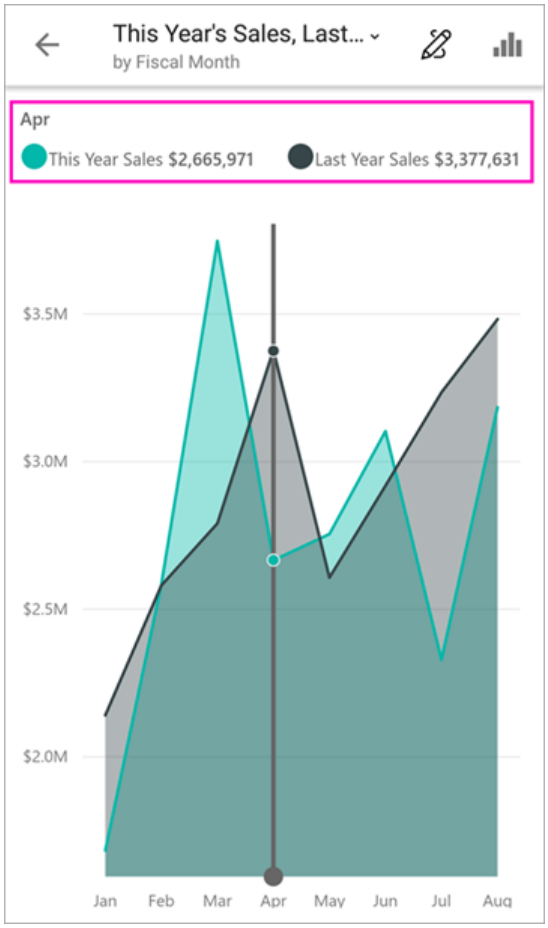
2. Tap the Retail Analysis Sample dashboard to open it.



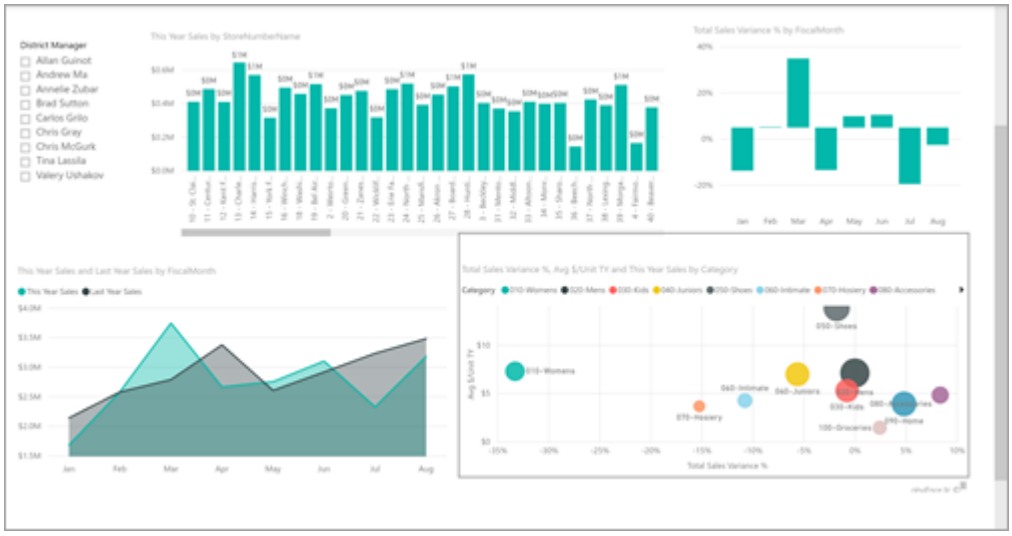
3. Tap the ☆ star icon Favorite star icon in the title bar to make this a favorite dashboard. When you make a favorite in the mobile app, it's a favorite in the Power BI service, and vice versa.
4. Scroll down and tap the "This Year's Sales, Last Year's Sales" filled line chart. Tap a tile to go to focus mode



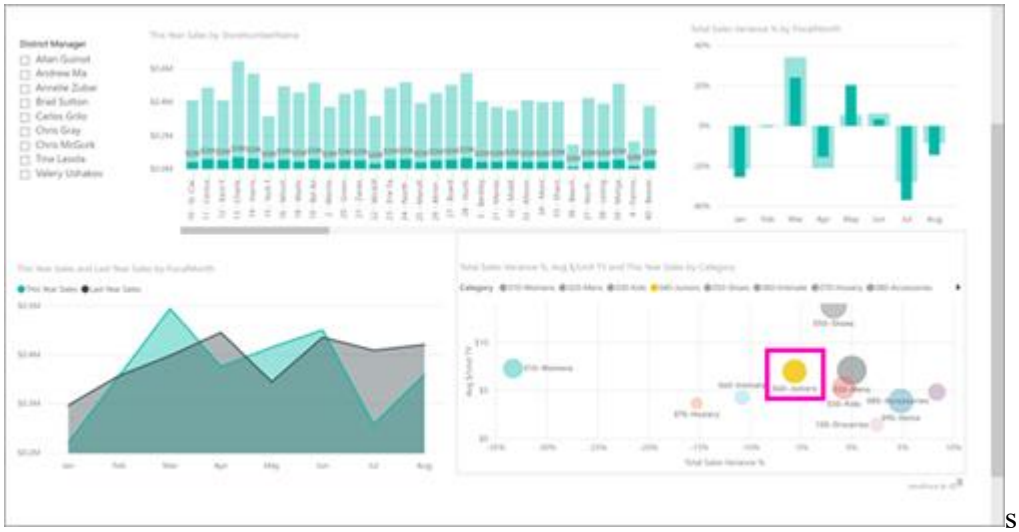
5. In focus mode, tap Apr in the chart. You see the values for April displayed at the top of the chart.



6. Tap the  Report icon Report icon in the upper-right corner. The report related to this tile opens in landscape mode.



7. Tap the yellow "040 - Juniors" bubble in the bubble chart. See how it highlights related values in the other charts?



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8. Swipe up to see toolbar across the bottom, and tap the pencil icon.

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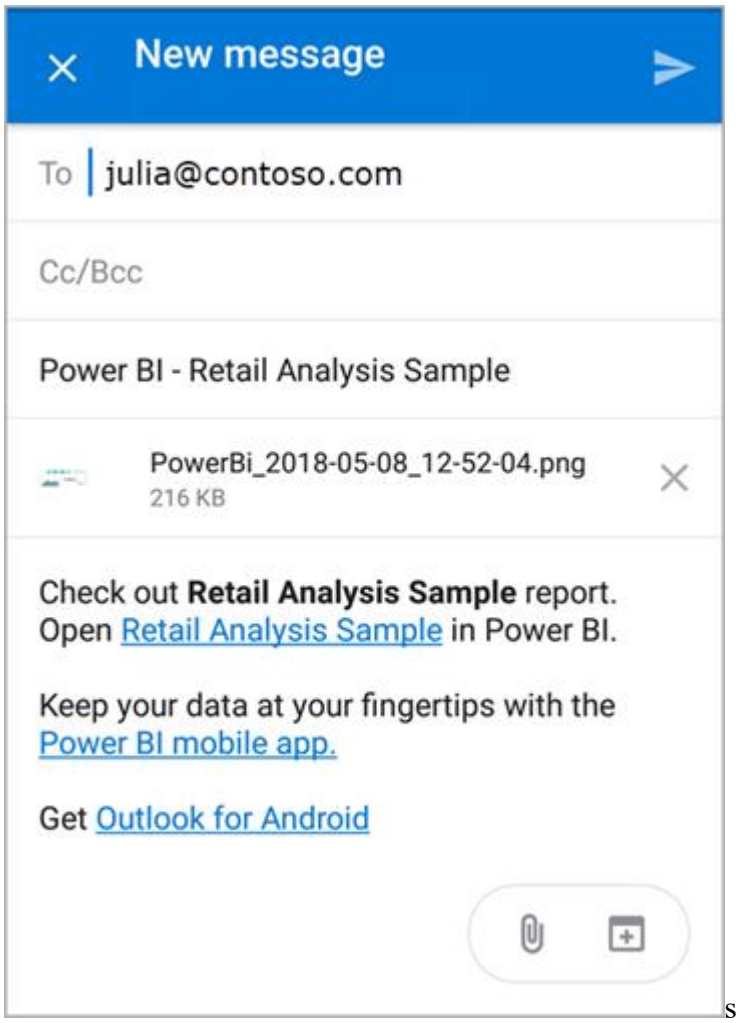
9. Tap the smiley-face icon in the Annotate toolbar, and add some smiley faces to your report page.

10. Tap Share in the upper-right corner. Fill in their email addresses and add a message, if you so desire.



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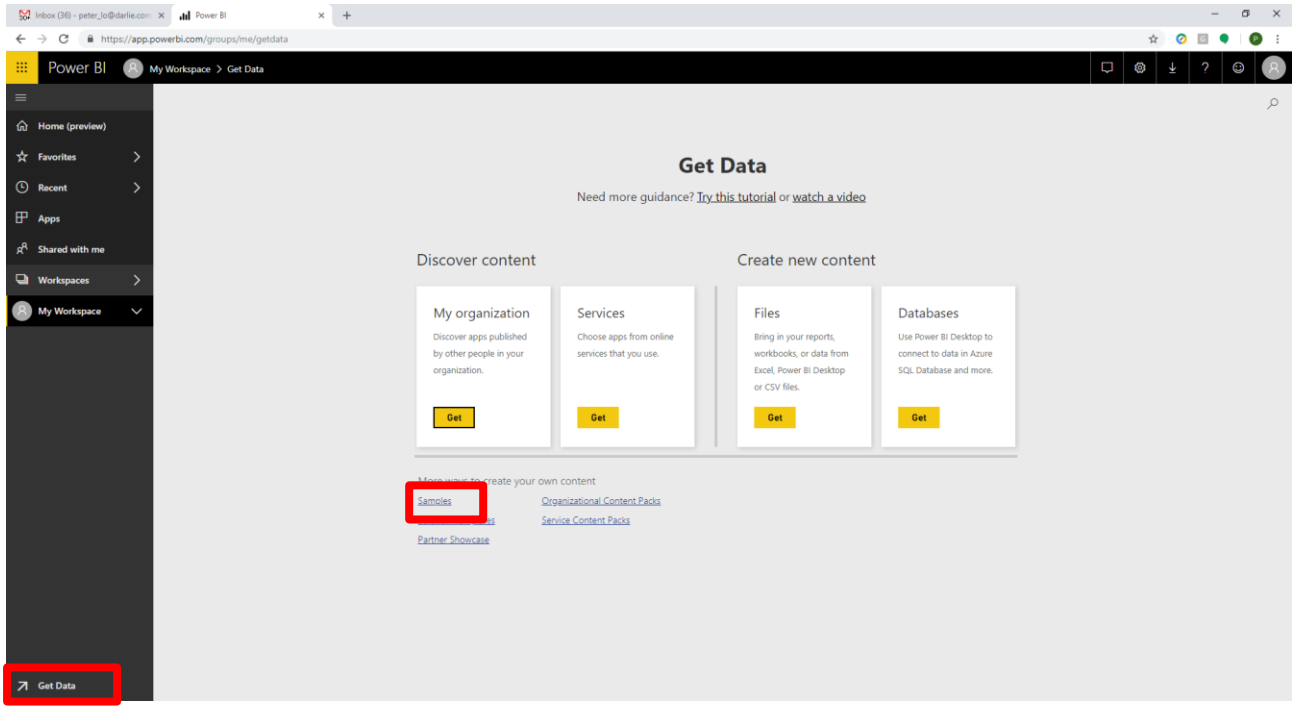
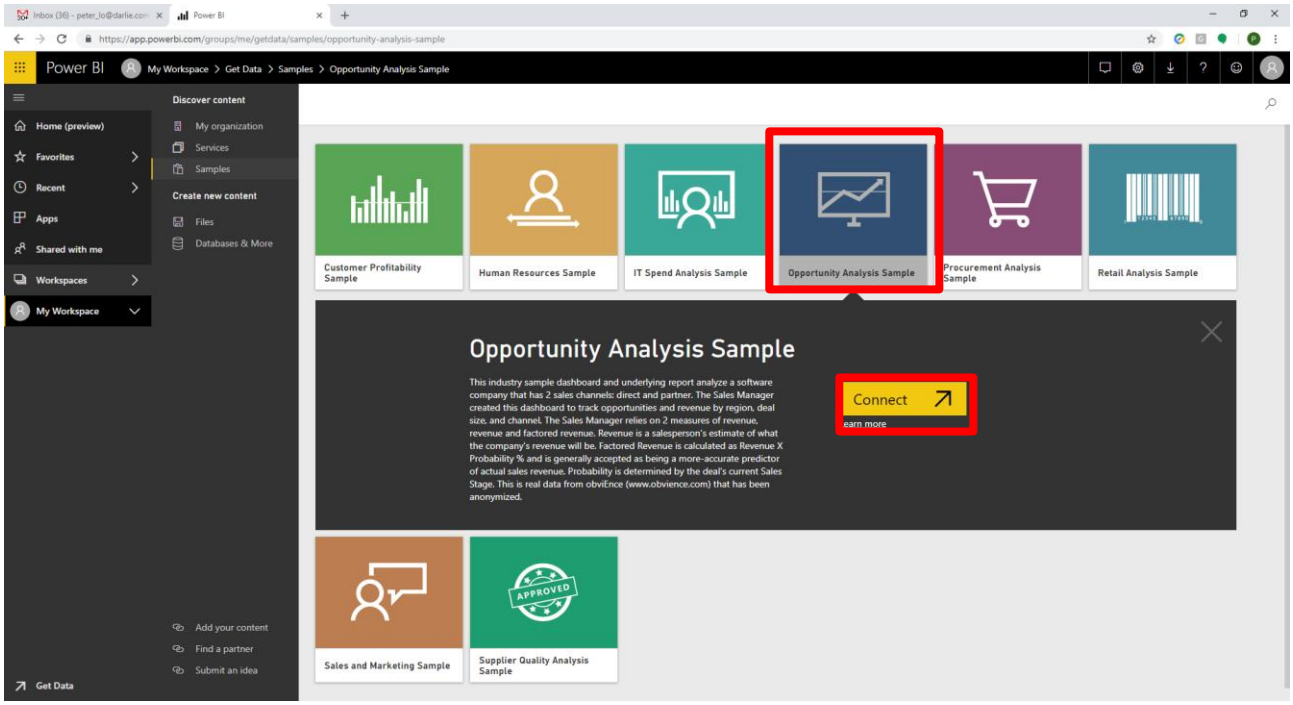
2.3 Q&A Virtual Analyst

2.3.1 Install Opportunity Analysis Sample

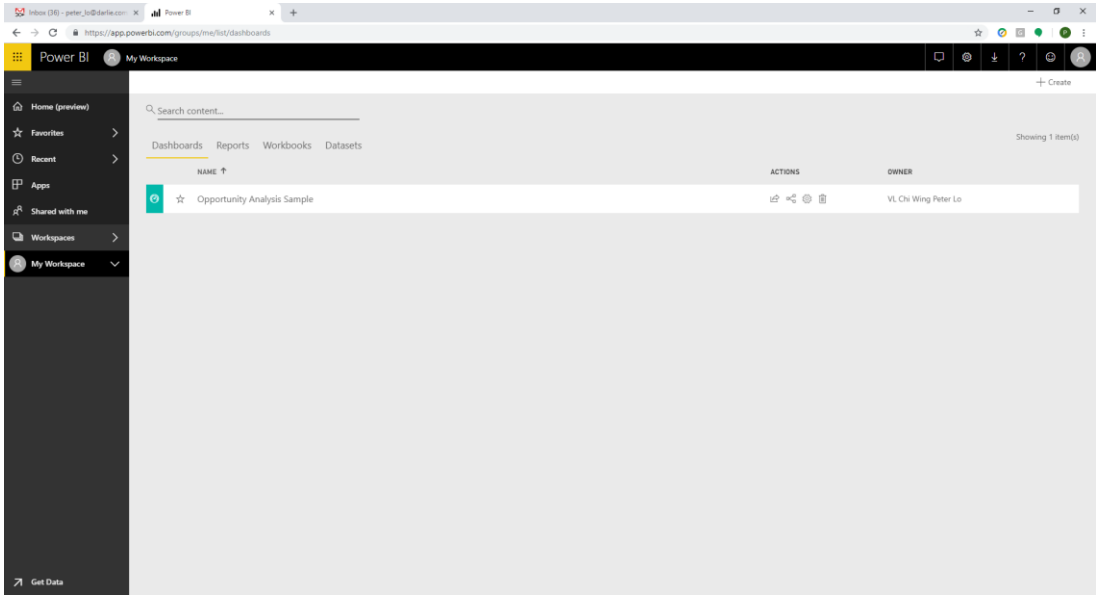
1. Open the Power BI service in your browser and select the global navigation icon to open the left navigation. Then press "**Get Data**" and "**Samples**"



2. Select the "**Opportunity Analysis sample**" and click **[Connect]**.

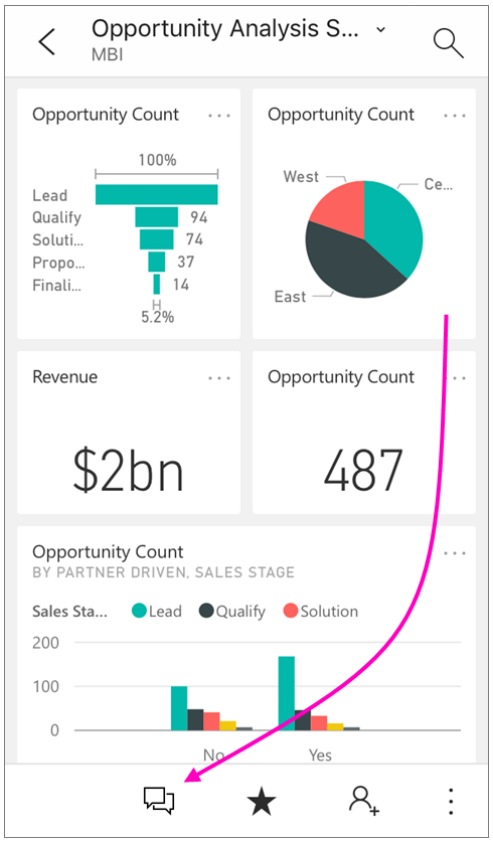


3. Power BI imports the sample, adding a new dashboard, report, and dataset to your My Workspace

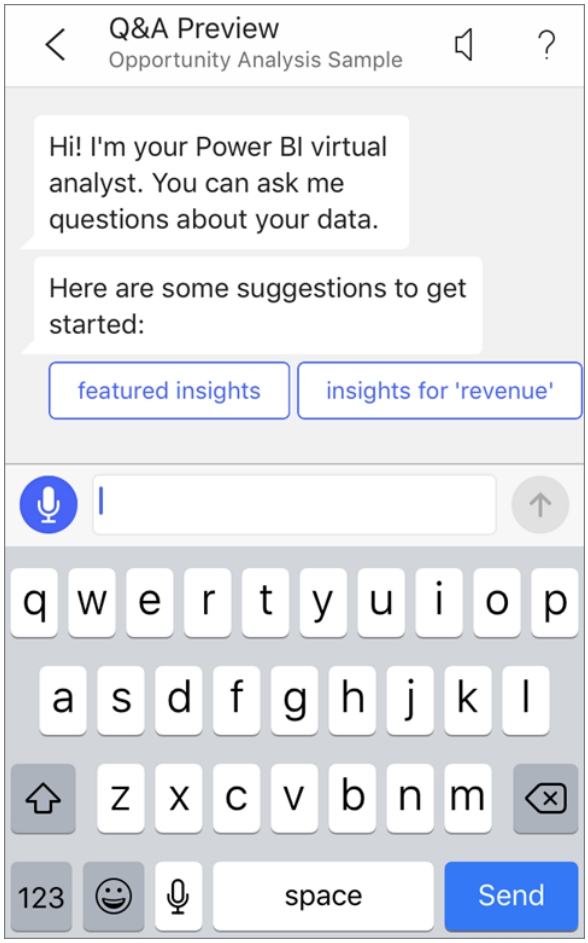


2.3.2 Try Featured Insights in Mobile

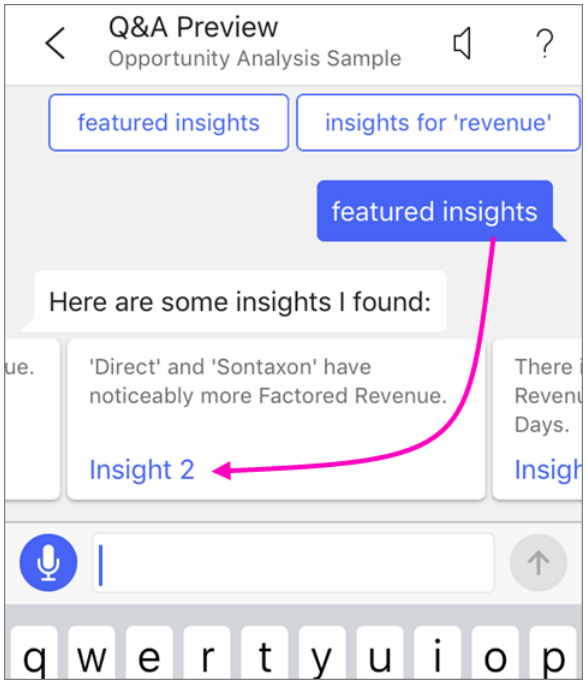
1. On your iPhone or iPad, open the Power BI app and sign in with your Power BI account credentials, the same ones you used in the Power BI service in the browser. Tap the global navigation button Global navigation button > Workspaces > My Workspace, and open the Opportunity Analysis Sample dashboard. Tap the Q&A virtual analyst icon Q&A virtual analyst icon from the action menu at the bottom of the page (at the top of the page on an iPad).



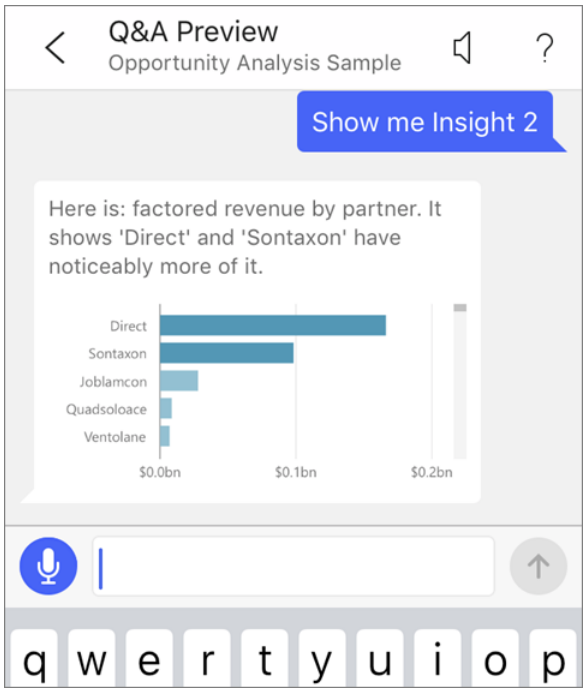
2. The Power BI Q&A virtual analyst offers some suggestions to get started. Click the "***featured insights***" button



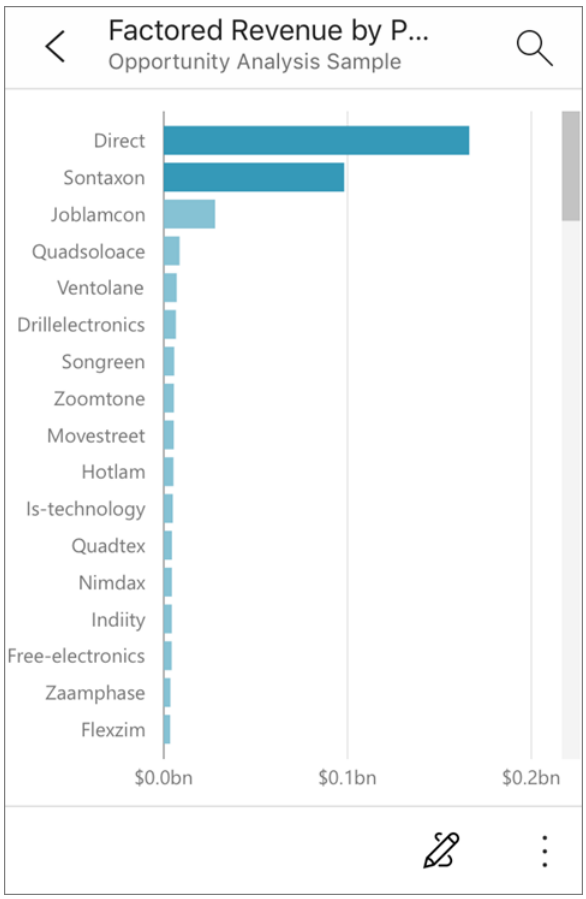
3. The Q&A virtual analyst suggests some insights. Scroll to the right and tap "***Insight 2***".



4. The Q&A virtual analyst displays Insight 2.



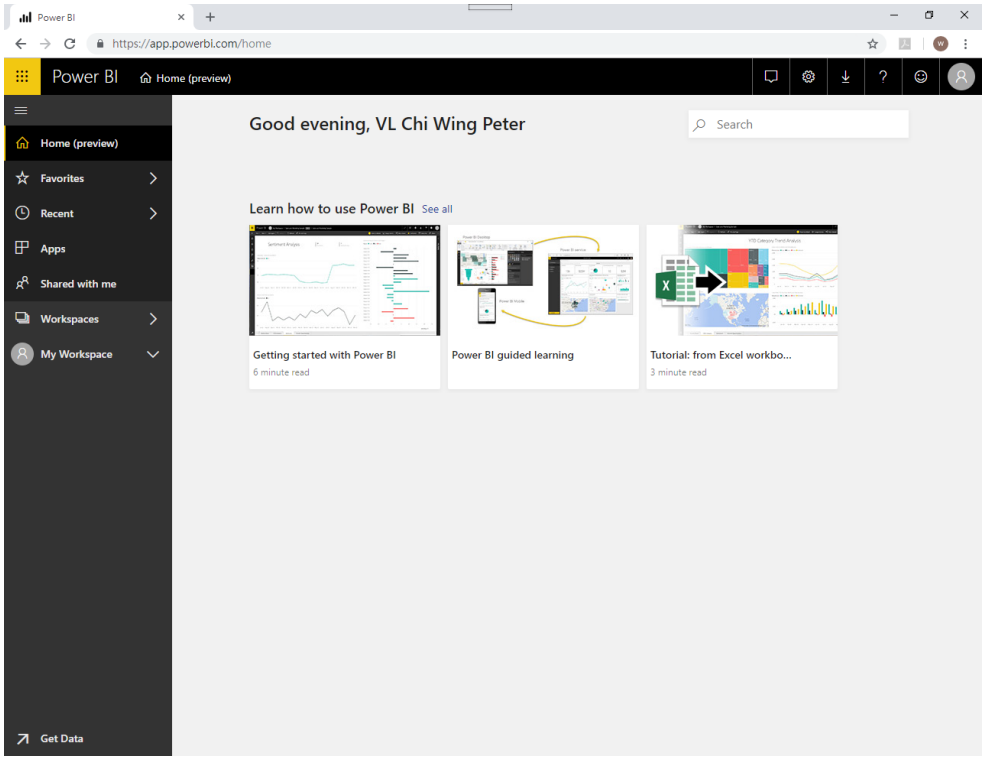
5. Tap the chart to open it in focus mode. Tap the arrow in the upper-left corner to go back to the Q&A virtual analyst experience



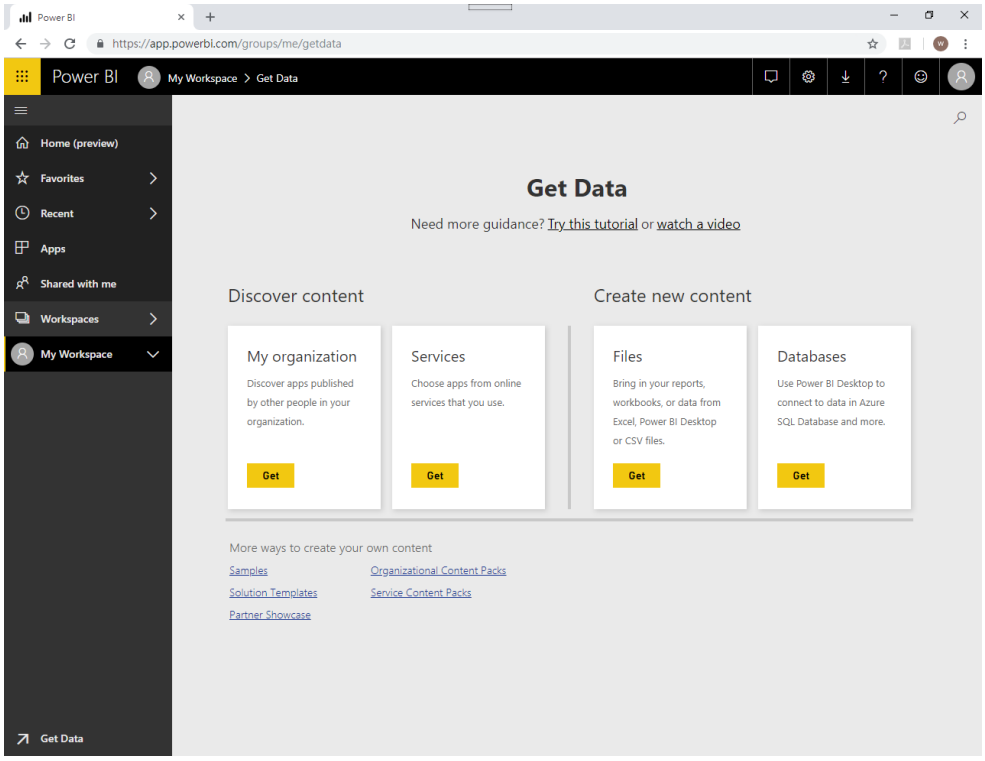
3. Get Data from Excel Workbook Files

3.1 Upload your Excel file into Power BI

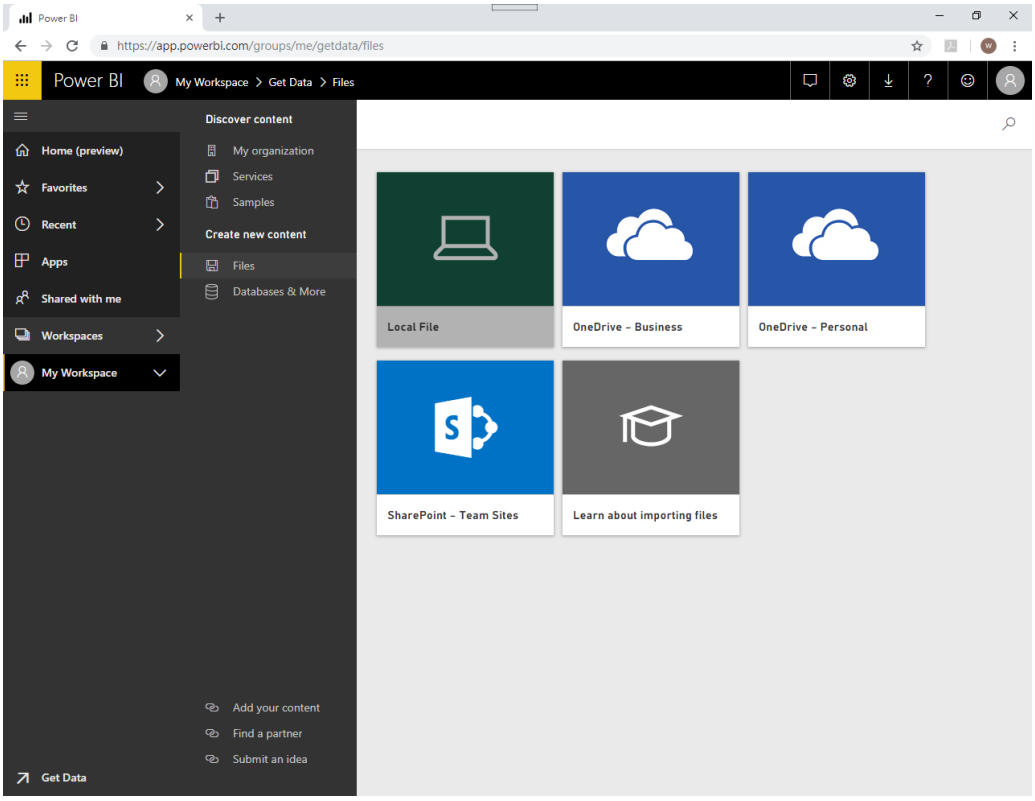
1. At the bottom of the left navigation pane, select **[Get Data]**. On the Get Data page, under Import or Connect to Data, in the Files box, select Get. On the Files page, select Local File. Navigate to the Excel workbook file on your computer and select it to load into Power BI.



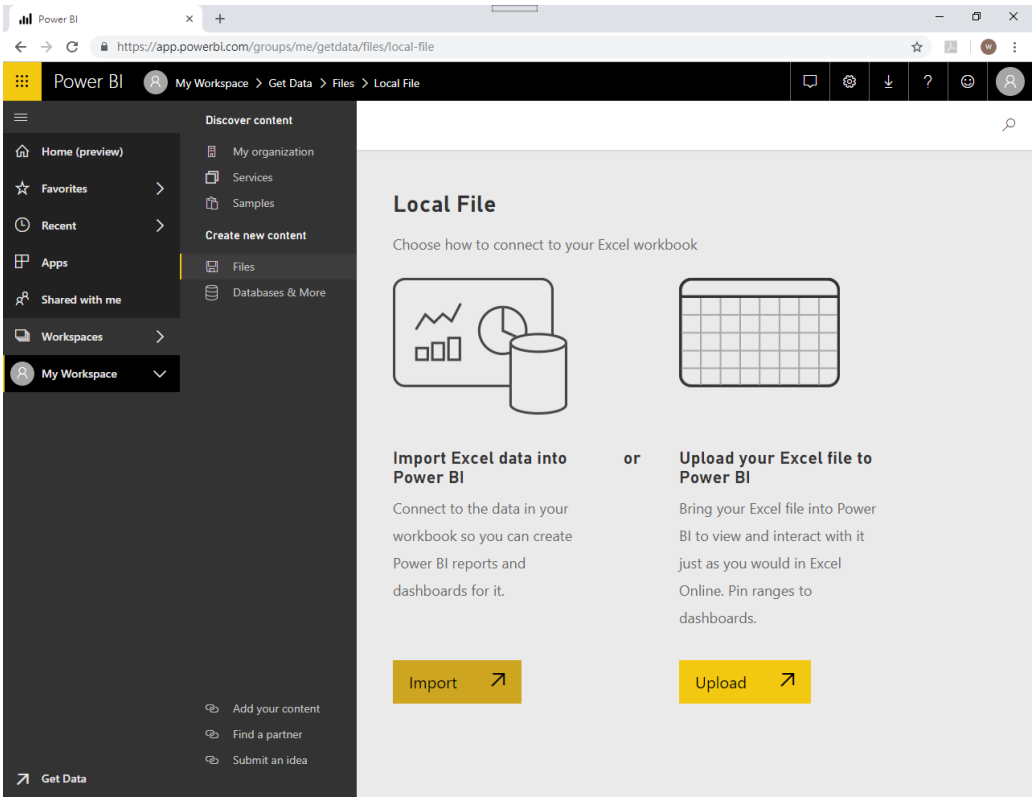
2. Click **[Get]** in "**File**".



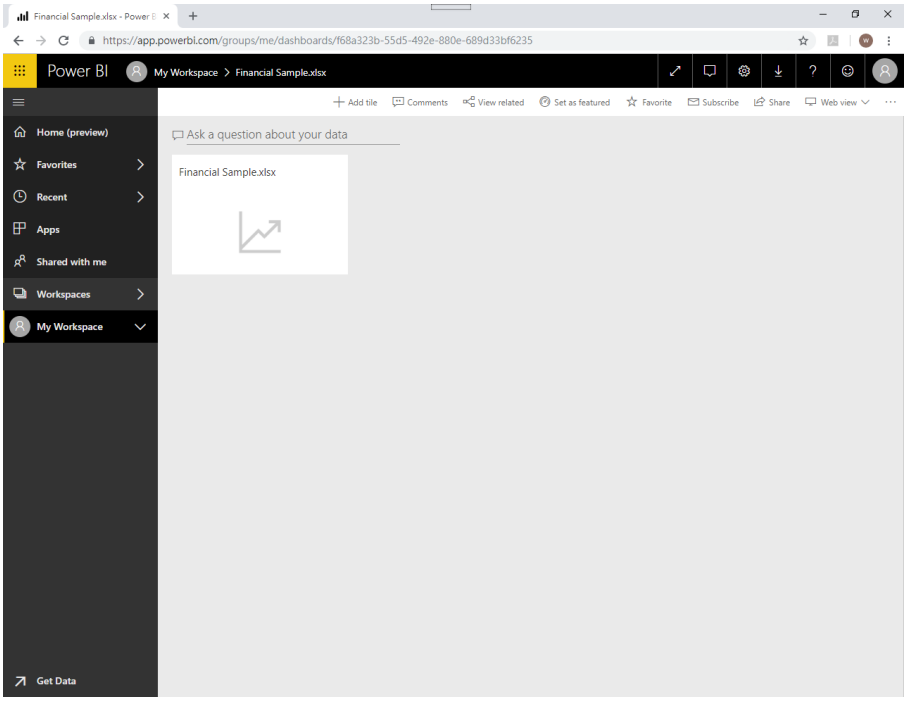
3. On the Files page, select **Local File**. Navigate to the Excel workbook file on your computer and select it to load into Power BI.



4. Click **[Import]** button to "***Import Excel data into Power BI***".

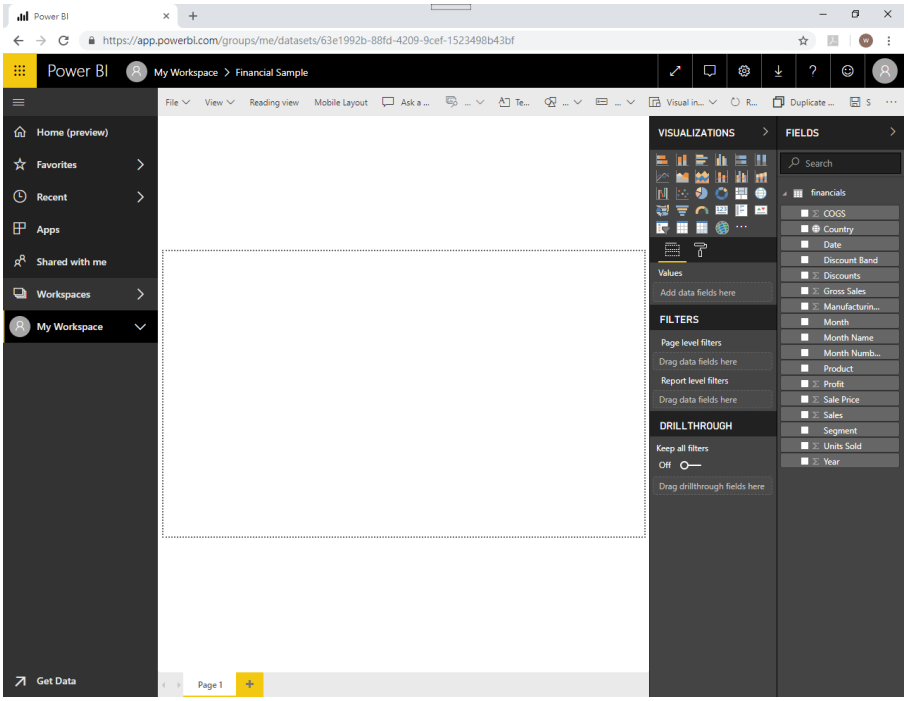


5. Power BI imports the sample, adding a new dashboard, report, and dataset to your My Workspace.



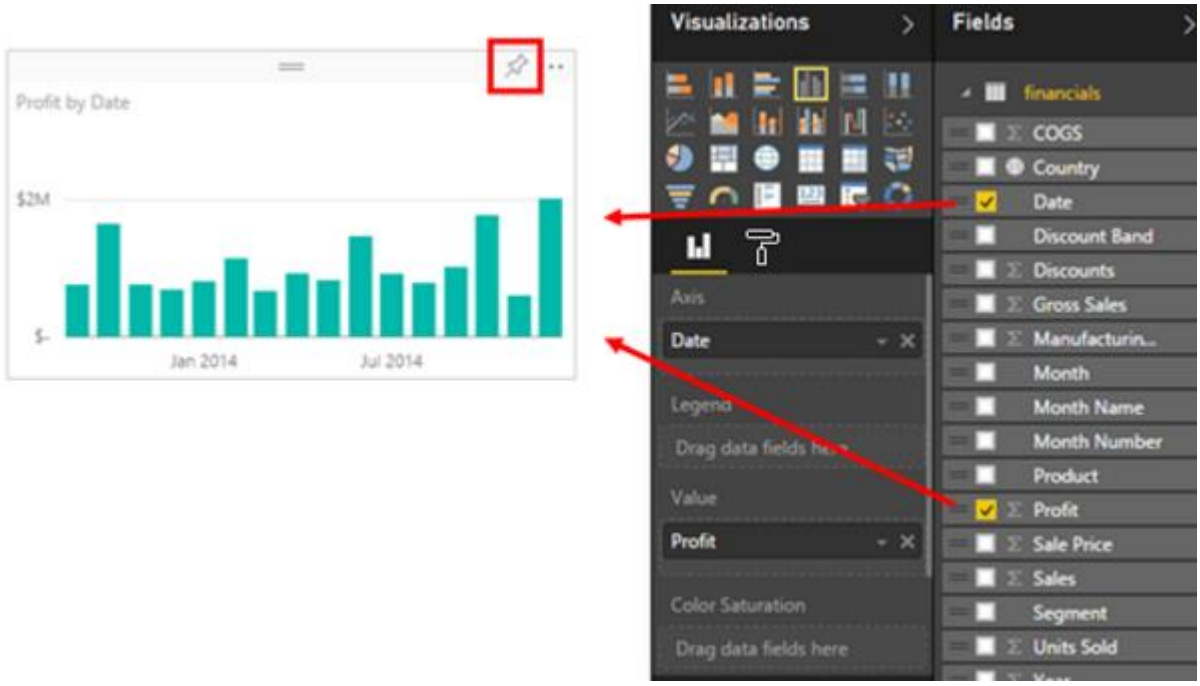
3.2 Build your Report

1. After Power BI imports your Excel file, start building your report. When the dataset is ready message appears, select View dataset. Power BI opens in Editing view and displays the report canvas. On the right side are the Visualizations, Filters, and Fields panes. Notice that your Excel workbook table data appears in the Fields pane. Under the name of the table, Power BI lists the column headings as individual fields.



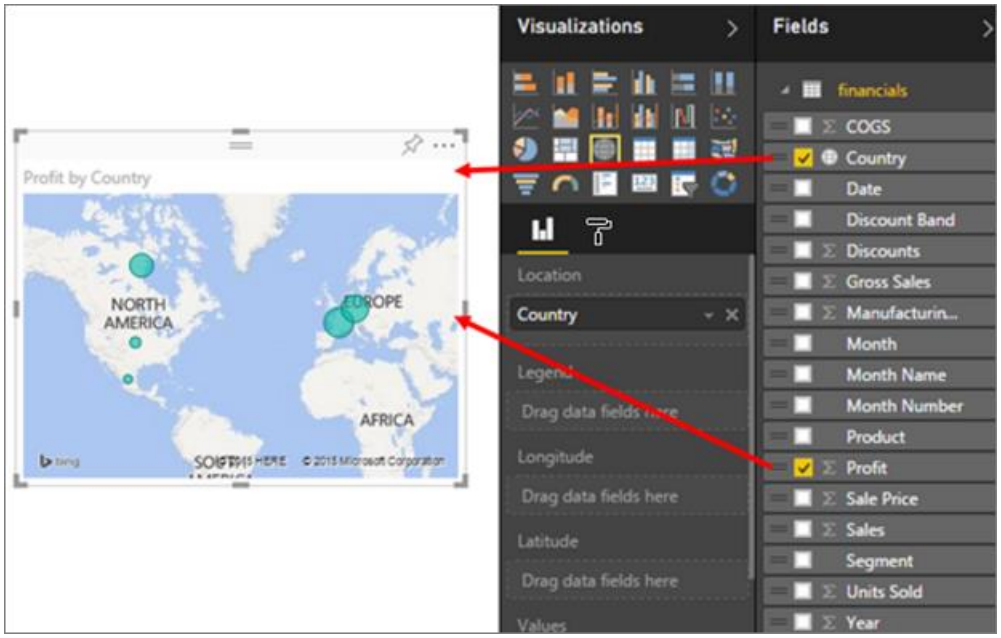
3.2.1 Create Bar Chart

1. Now you can begin to create visualizations. ***Your manager wants to see profit over time.*** In the Fields pane, drag Profit to the report canvas. Power BI displays a bar chart by default. Next, drag Date to the report canvas. Power BI updates the bar chart to show profit by date.



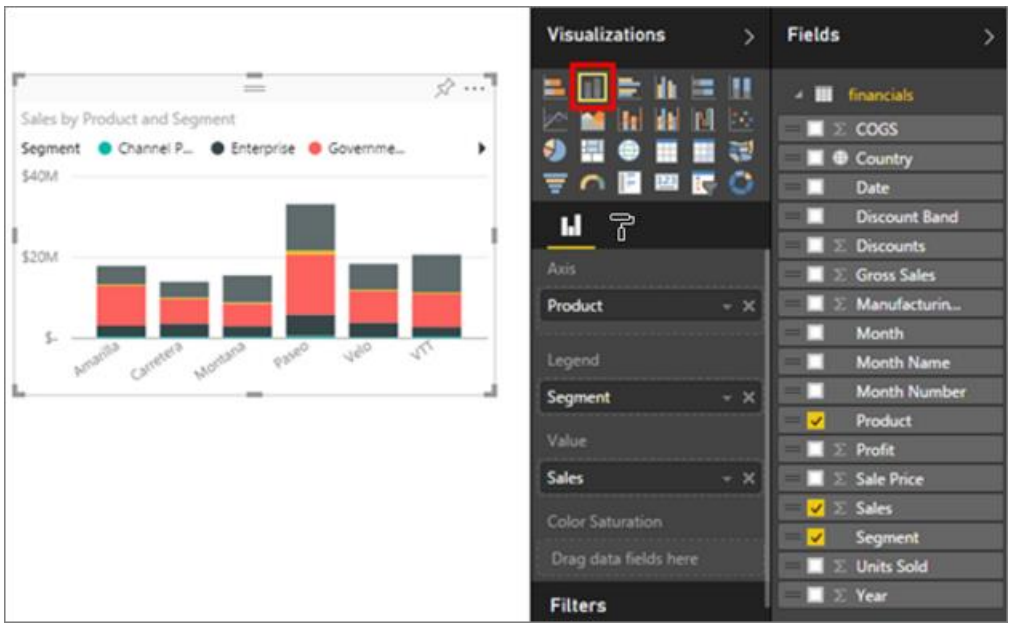
3.2.2 Create Map

1. ***Your manager wants to know which countries are the most profitable.*** Impress her with a map visualization. Press [+] to create a new page, and then create a "Map", and from the Fields pane, simply drag over the Country and then Profit fields. Power BI creates a map visual with bubbles representing the relative profit of each location.



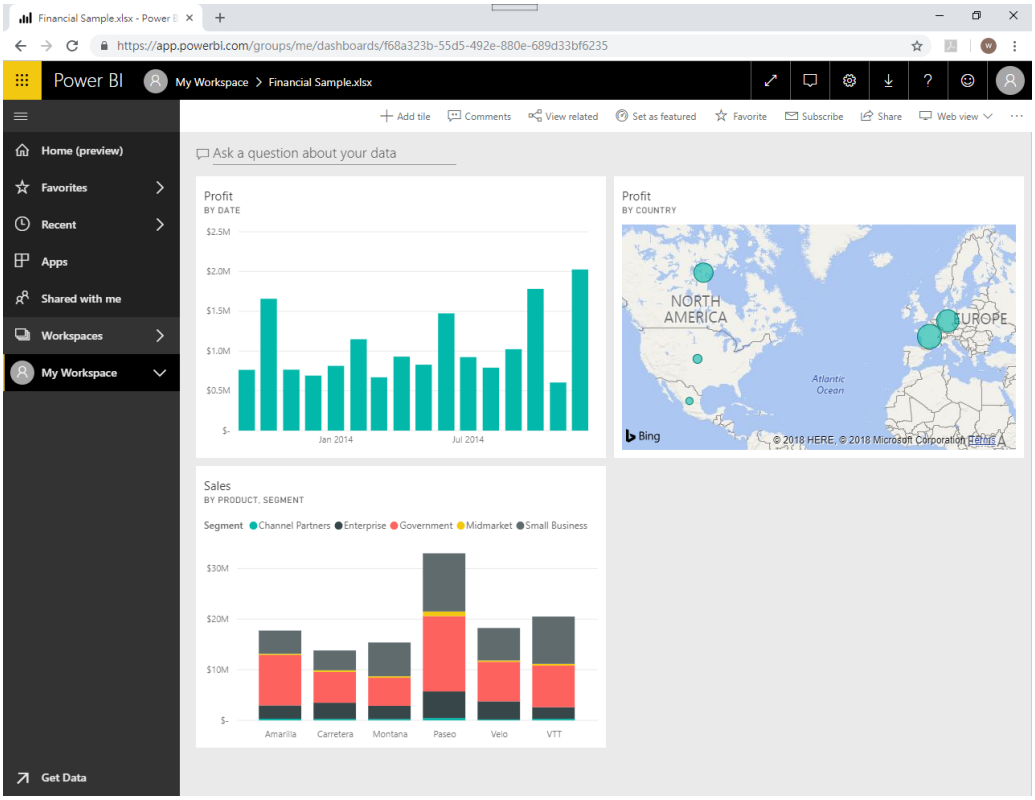
3.2.3 Create Stacked Bat Chart

1. ***What about displaying a visual showing sales by product and market segment?*** In the Fields pane, select the checkboxes next to the Sales, Product and Segment fields. Power BI creates a chart instantly. Change the type of chart by choosing one of the icons in the Visualizations menu. For instance, change it to a Stacked Bar chart. To sort the chart by Product, select the ellipses (...) > Sort by.

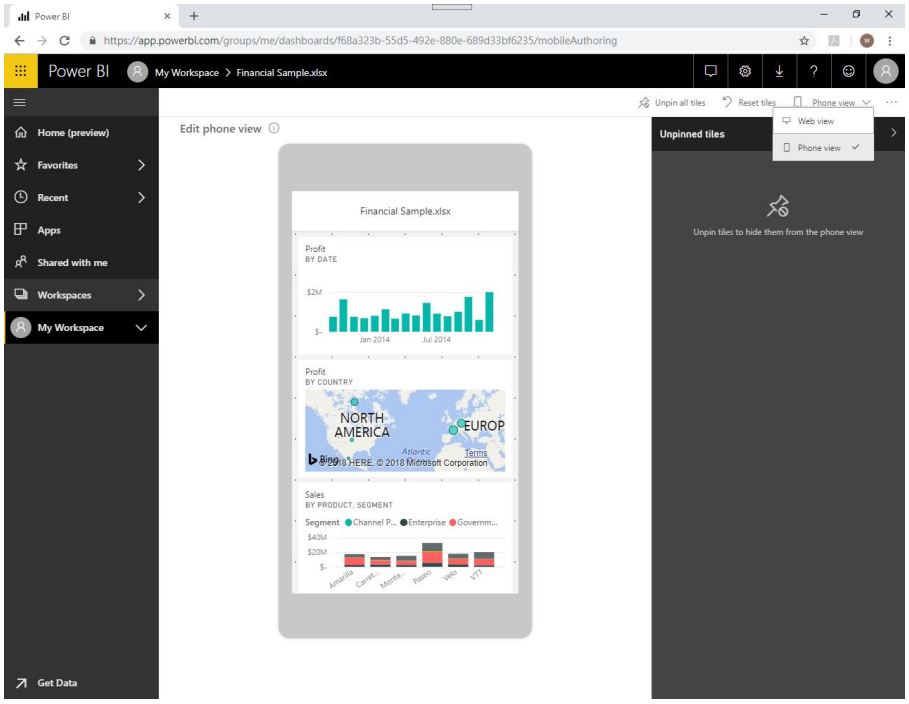


3.3 Create Dashboard

1. Pin all of your visuals to your Dashboard. You're ready to share it with your colleagues.

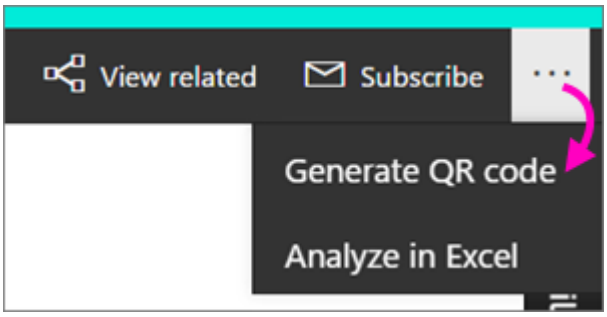


3.4 Switch between Web / Mobile View

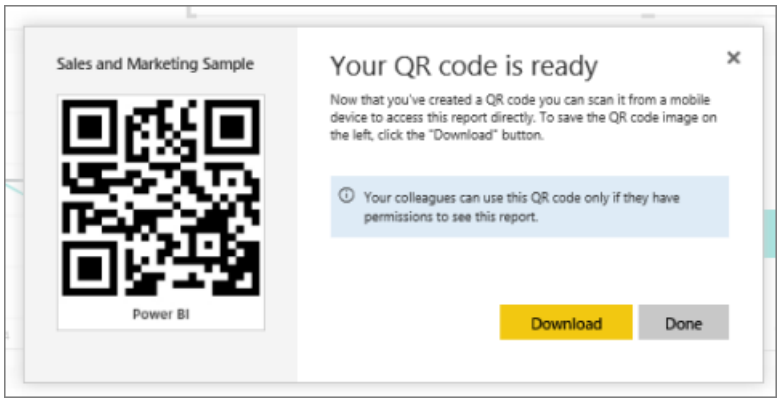


3.5 Create QR Code for Report

1. Open a report in the Power BI service. Select the ellipsis (...) in the top-right corner and select Generate QR code.



2. A dialog box with the QR code appears.

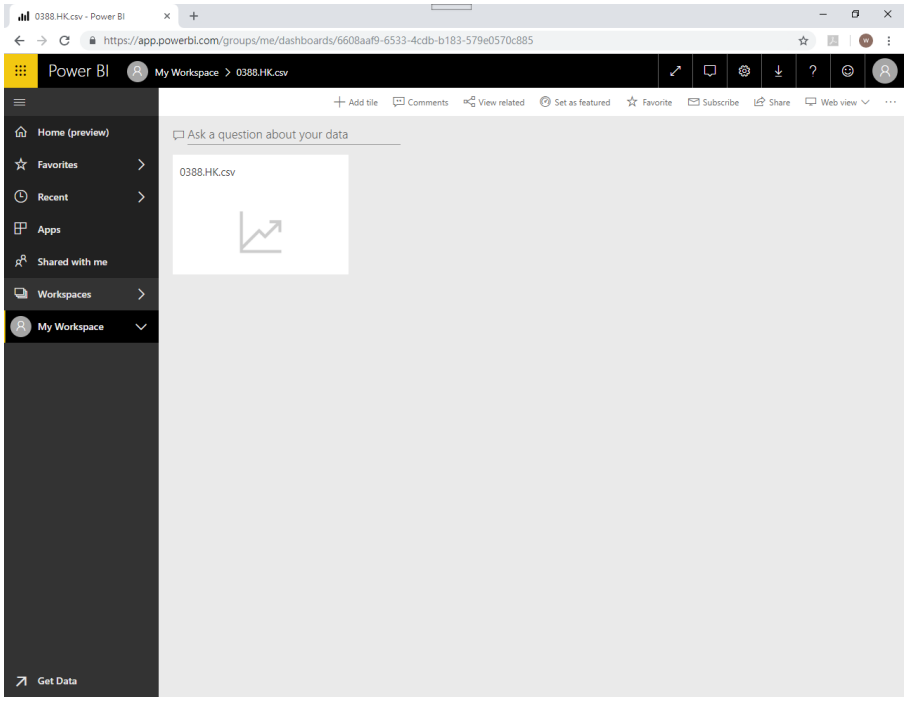


3. From here you can scan the QR code or download and save it so you can:
   - Add it to an email or other document, or
   - Print it and place it in a specific location.

4. Connecting to CSV File

4.1 Read Text/CSV File

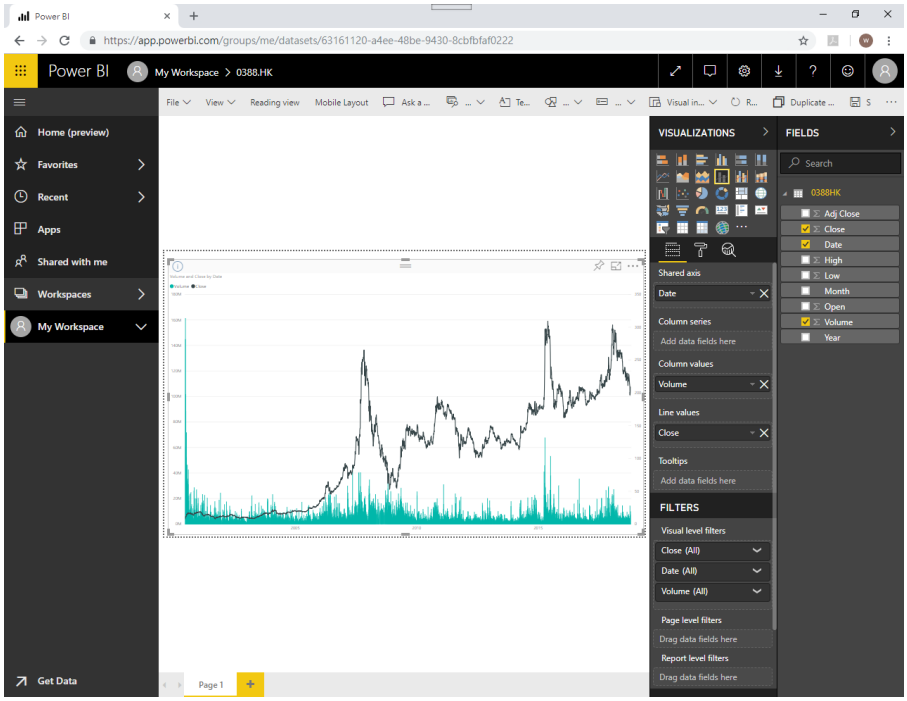
1. Select **Get Data** to load the "*0388.HK.csv*" file, double cli k to create the report.



4.2 Creating Report

4.2.1 Create Line Chart

1. Select Line and Stacked Column Chart. Put *Date* in **Shared Axis**, *Volume* in **Column values**, and *Close* in *Line values*.



5. Quick Insight

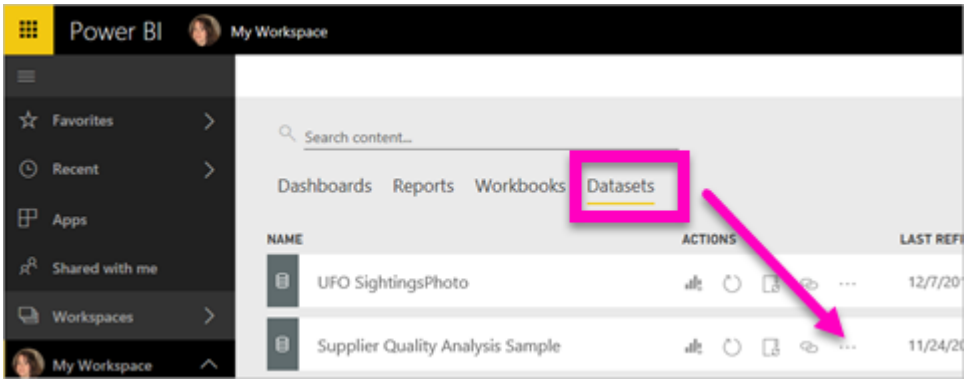
5.1 Overview

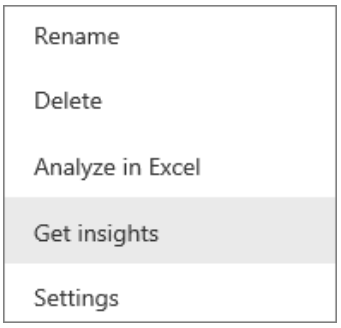
Have a new dataset and not quite sure where to start? Need to build a dashboard quickly? Want to look for insights you may have missed?

Run quick insights to generate interesting interactive visualizations based on your data. Quick insights can be run on an entire dataset (quick insights) or on a specific dashboard tile (scoped insights). You can even run insights on an insight!

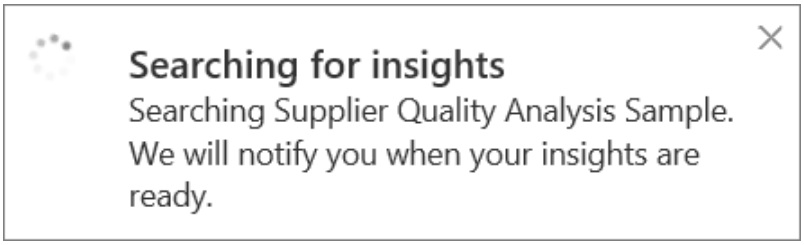
5.2 Create Insight

1. Explore insights using the **Supplier Quality Analysis sample**. From the Datasets tab, select the ellipses (...) and choose Get insights.

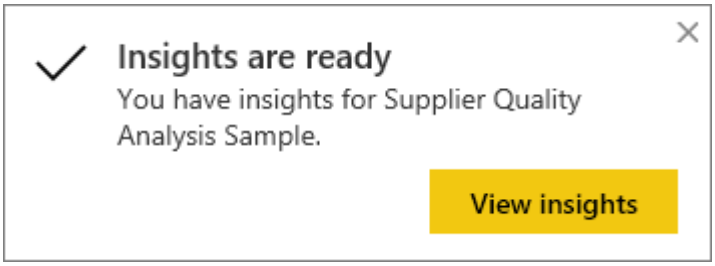




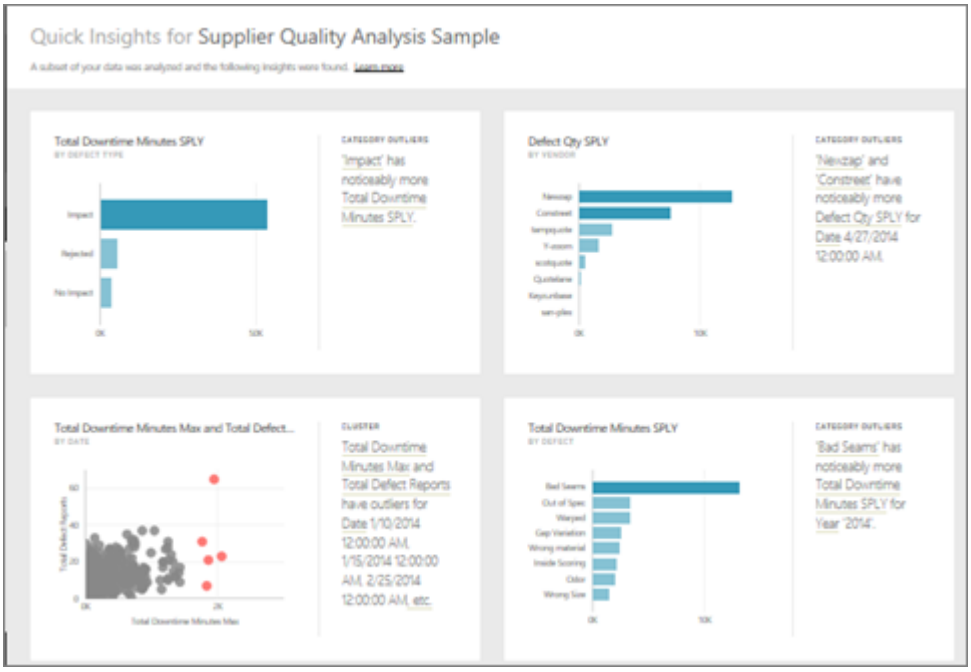
2. Power BI uses various algorithms to search for trends in your dataset.



3. Within seconds, your insights are ready. Select View insights to display visualizations.

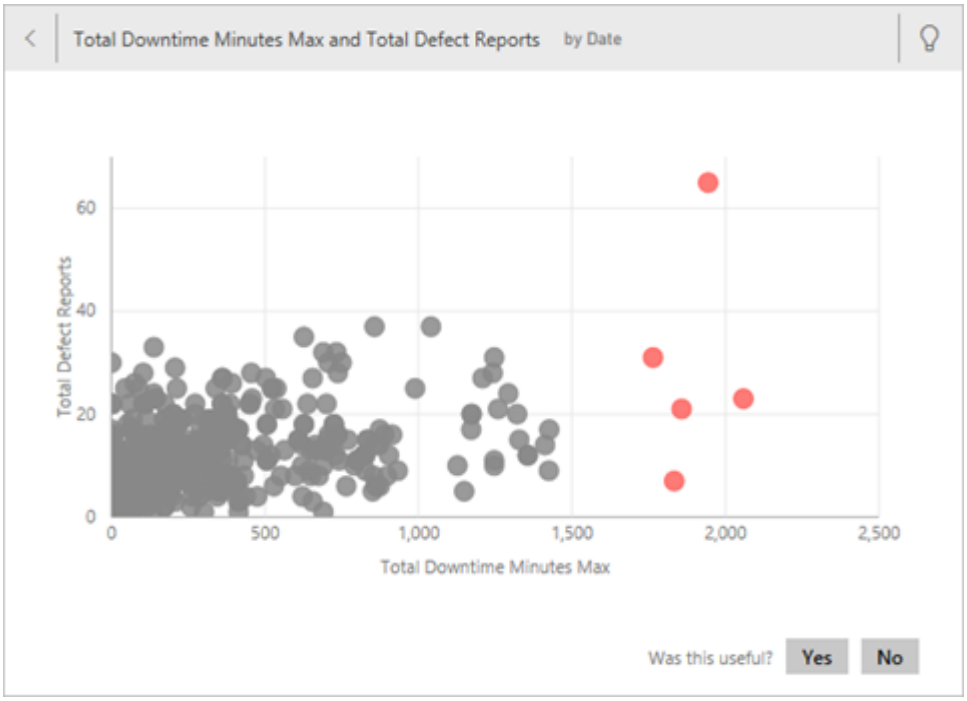


4. The visualizations display in a special Quick Insights canvas with up to 32 separate insight cards. Each card has a chart or graph plus a short description.



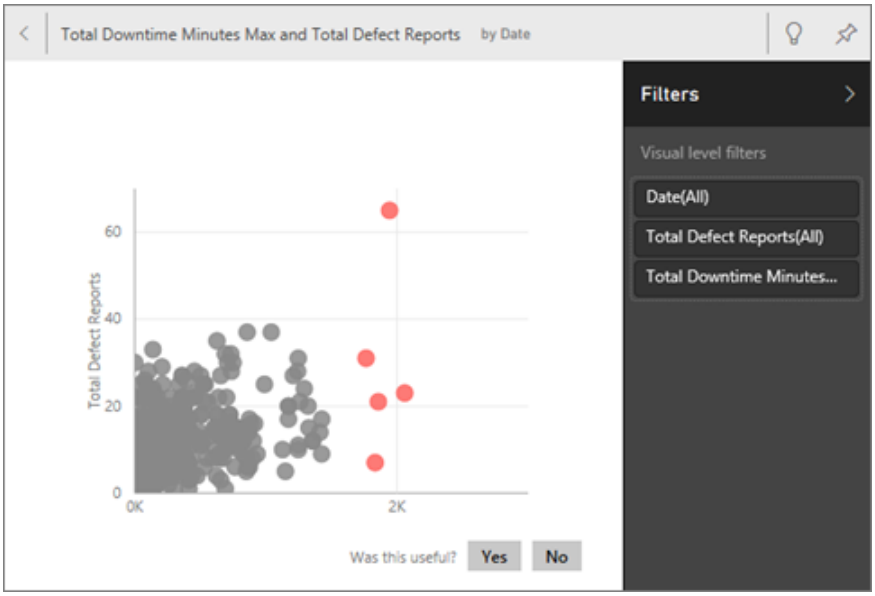
5.3 Interact with Insight Cards

1. Hover over a card and select the pin icon to add the visualization to a dashboard. Hover over a card, select the ellipses (...) and choose View insights. This opens the insight fullscreen.

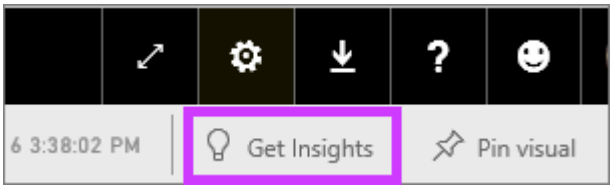


2. In Focus mode you can:

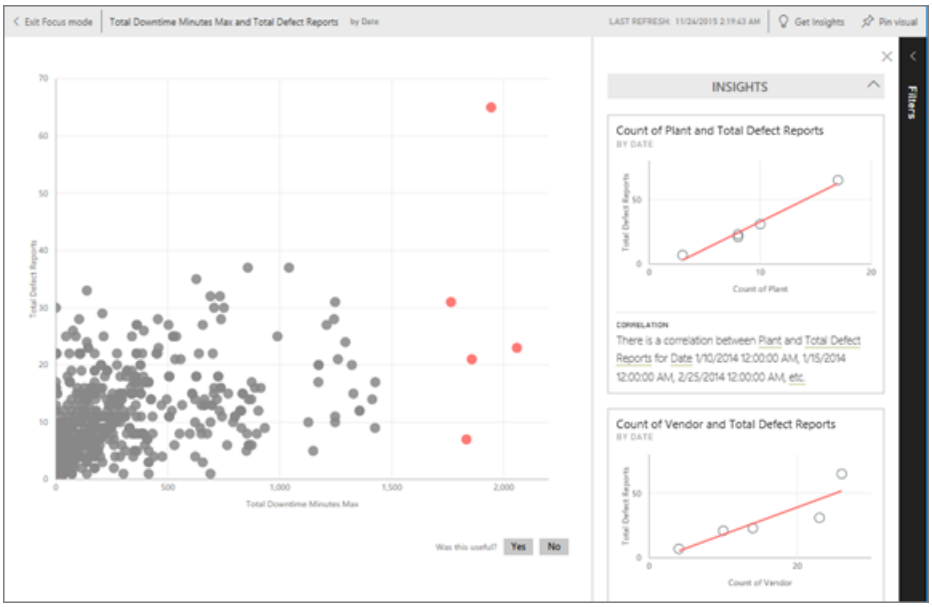
- Filter the visualizations. To display the filters, in the top right corner, select the arrow to expand the Filters pane. insight an Filters menu expanded



- Pin the insight card to a dashboard by selecting the pin icon  or Pin visual.
- Run insights on the card itself. This is often referred to as scoped insights. In the top-right corner, select the lightbulb icon or Get insights.



The insight displays on the left and new cards, based solely on the data in that single insight, display along the right.

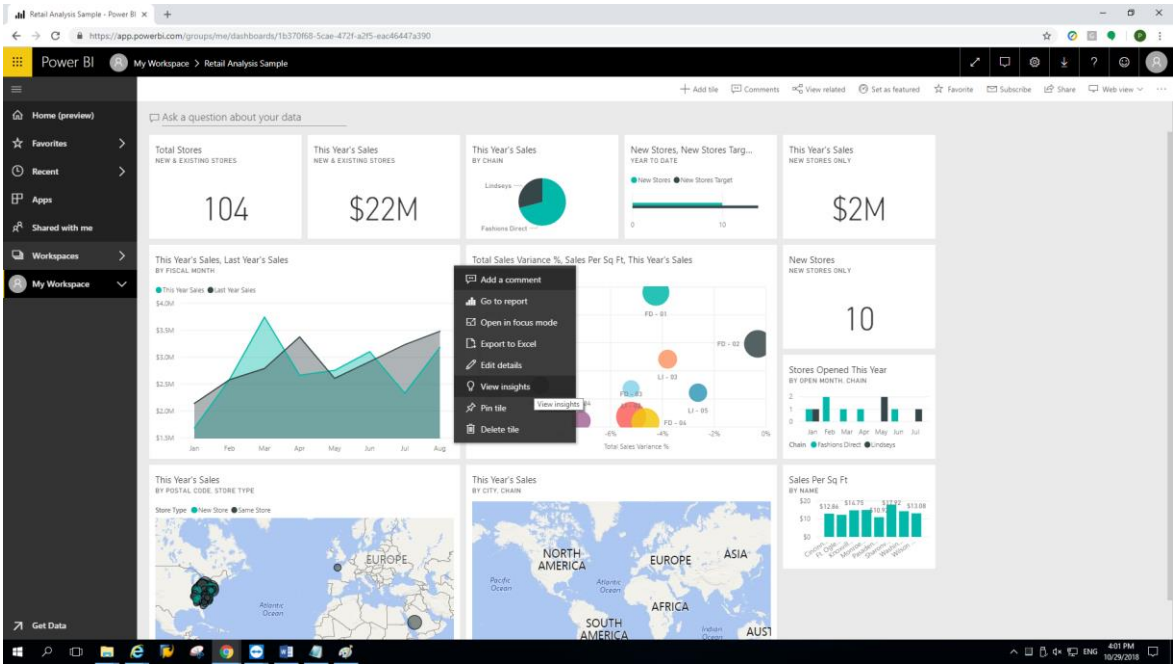


3. To return to the original insights canvas, in the top-left corner, select Exit Focus mode.

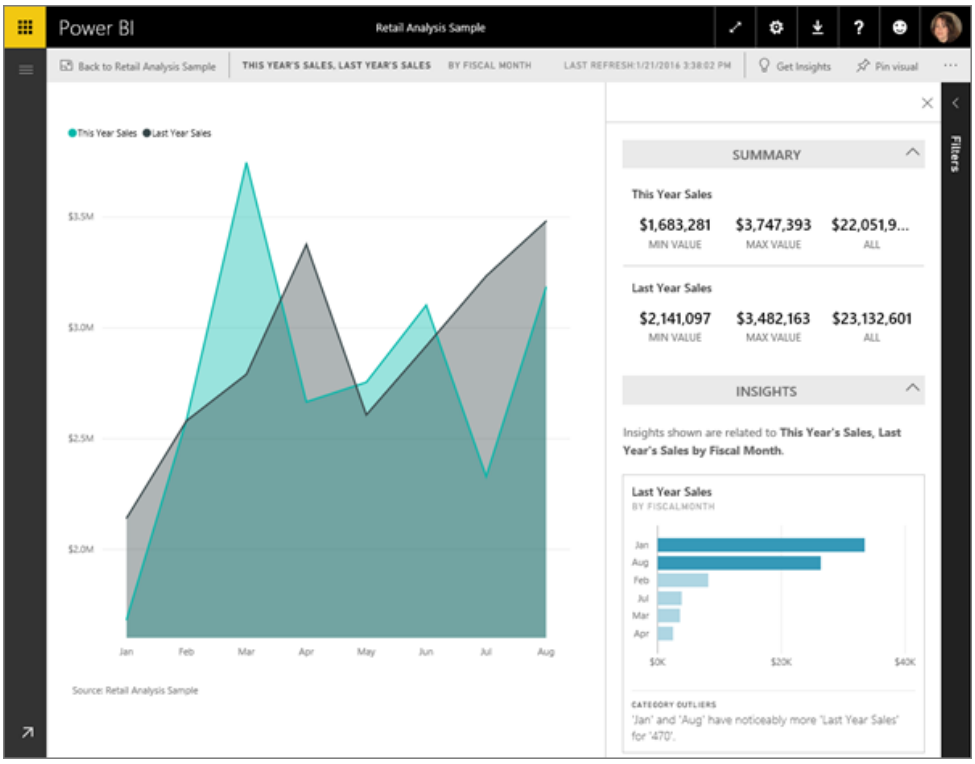
5.4 Run Insights on a Dashboard Tile

Instead of searching for insights against an entire dataset, narrow your search to the data used to create a single dashboard tile. This too is often referred to as scoped insights.

1. Open a dashboard. Hover over a tile. Select the ellipses (...), and choose **View insights**.



2. The tile opens in Focus mode with the insights cards displayed along the right.



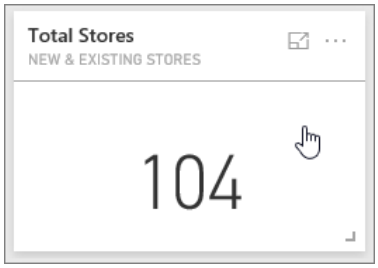
3. Does one insight pique your interest? Select that insight card to dig further. The selected insight appears on the left and new insight cards, based solely on the data in that single insight, display along the right.
4. Continue digging into your data, and when you find an interesting insight, pin it to your dashboard by selecting Pin visual from the top-right corner.

6. Data Alert

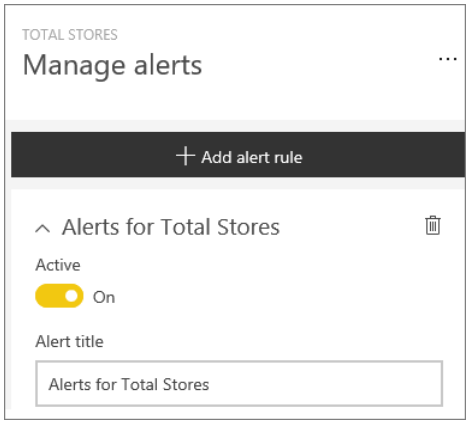
6.1 Creating Alert

Set alerts to notify you when data in your dashboards changes beyond limits you set. This example uses a card tile from the Retail Analysis sample dashboard.

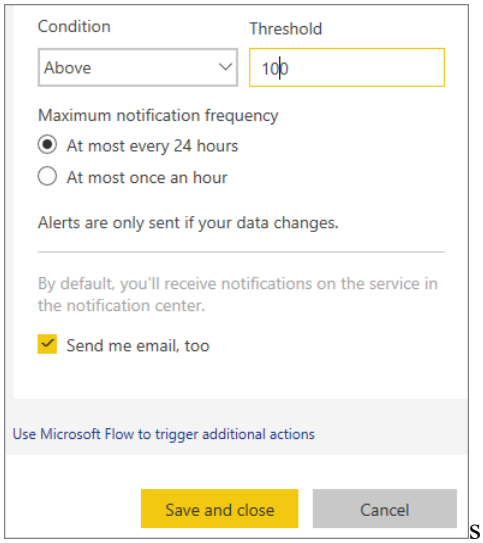
1. Start on a dashboard. From a dashboard gauge, KPI, or card tile, select the ellipses.



2. Select the bell icon  to add one or more alerts for Total stores. To start, select + **Add alert rule**, ensure the slider is set to **On**, and give your alert a title. Titles help you easily recognize your alerts.



3. Scroll down and enter the alert details. In this example we'll create an alert that notifies us once a day if the number of total stores goes above 100. Alerts will appear in our Notification center. And we'll have Power BI send us an email as well.



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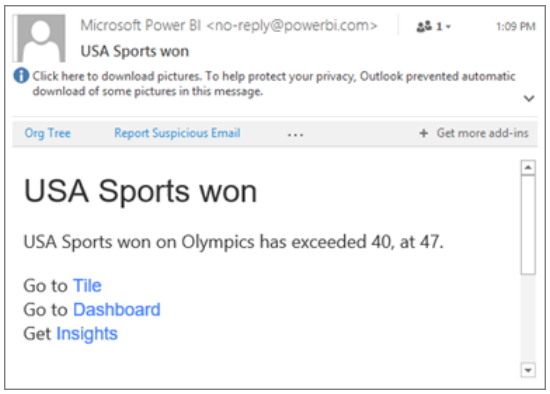
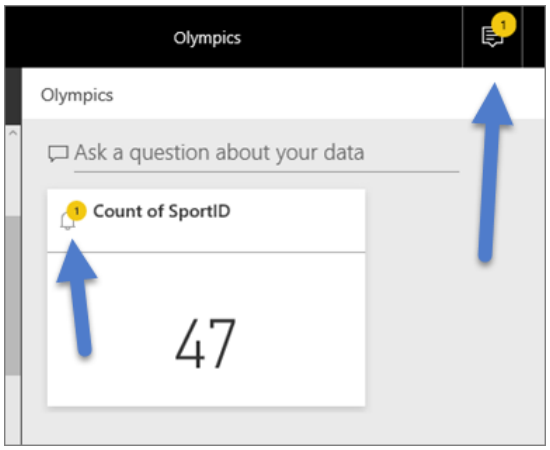
6.2 Receiving Alerts

When the data being tracked reaches one of the thresholds you've set, several things will happen. First, Power BI checks to see if it's been more than an hour or more than 24 hours (depending on the option you selected) since the last alert was sent. As long as the data is past the threshold, you'll get an alert. Next, Power BI sends an alert to your notification center and, optionally, in email. Each alert contains a direct link to your data. Select the link to see the relevant tile where you can explore, share, and learn more.

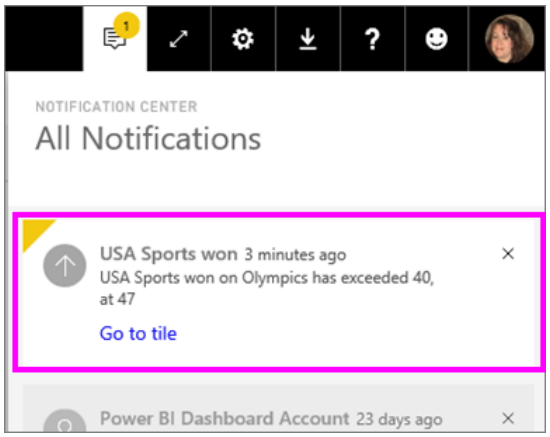
1. If you've set the alert to send you an email, you'll find something like this in your Inbox.



2. Power BI adds a message to your Notification center and adds a new alert icon to the applicable tile.



3. Open your Notification center to see the alert details.

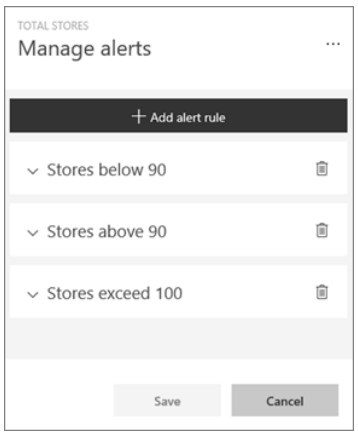


6.3 Managing Alerts

There are many ways to manage your alerts: From the dashboard tile itself, from the Power BI Settings menu, on an individual tile in the Power BI mobile app on the iPhone or in the Power BI mobile app for Windows 10.

6.3.1 From the Tile Itself

1. If you need to change or remove an alert for a tile, re-open the Manage alerts window by selecting the bell icon Alert icon. All the alerts that you've set for that tile are displayed.



2. To modify an alert, select the arrow to the left of the alert name.

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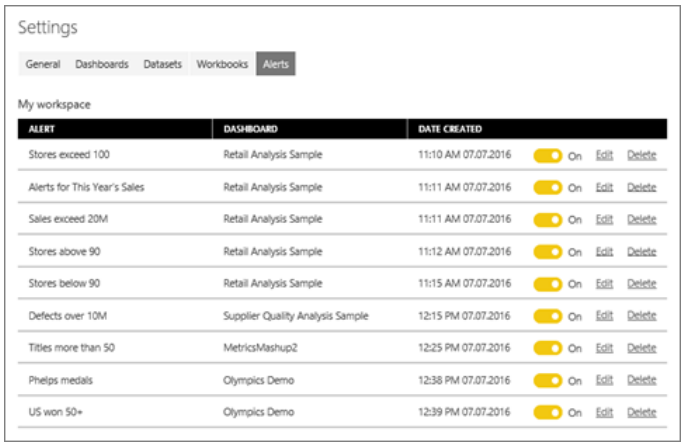
3. To delete an alert, select the trashcan to the right of the alert name.

6.3.2 From the Power BI Settings Menu

1. Select the gear icon from the Power BI menubar.

2. Under **Settings** select **Alerts**. From here you can turn alerts on and off, open the Manage alerts window to make changes, or delete the alert.



7. Visualization

7.1 Waterfall Charts

7.1.1 Overview

A waterfall chart shows a running total as values are added or subtracted. It's useful for understanding how an initial value (for example, net income) is affected by a series of positive and negative changes.

The columns are color coded so you can quickly tell increases and decreases. The initial and the final value columns often start on the horizontal axis, while the intermediate values are floating columns. Because of this "look", waterfall charts are also called bridge charts

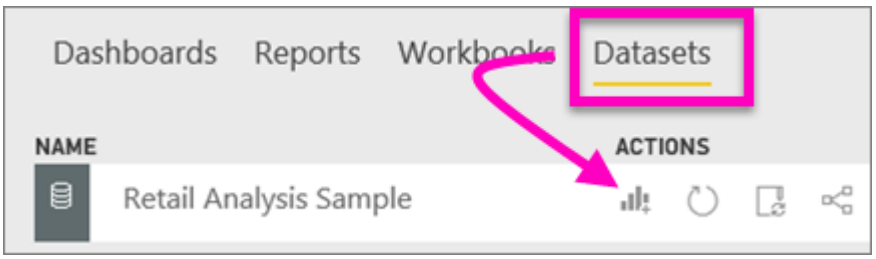
7.1.2 When to use a Waterfall Chart

Waterfall charts are a great choice:

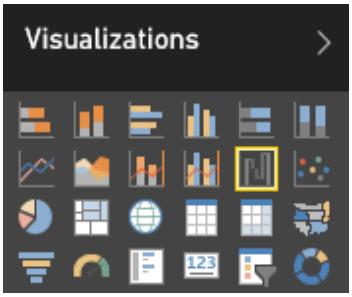
- when you have changes for the measure across time series or different categories
- to audit the major changes contributing to the total value
- to plot your company's annual profit by showing various sources of revenue and arrive at the total profit (or loss).
- to illustrate the beginning and the ending headcount for your company in a year
- to visualize how much money you make and spend each month, and the running balance for your account.

7.1.3 Create a Waterfall Chart

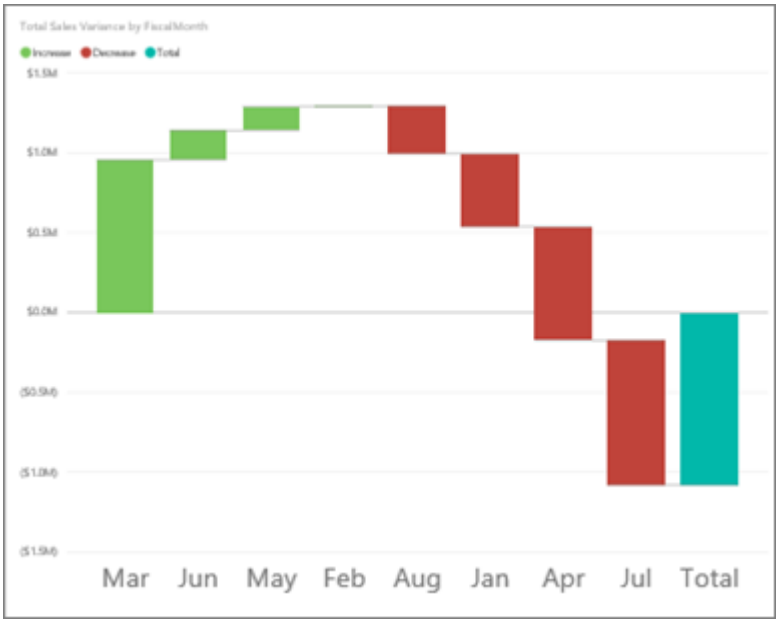
1. We'll create a waterfall chart that displays sales variance (estimated sales versus actual sales) by month. Select the Datasets tab and scroll to the new "**Retail Analysis Sample**" dataset. Select the Create report icon to open the dataset in report editing view.



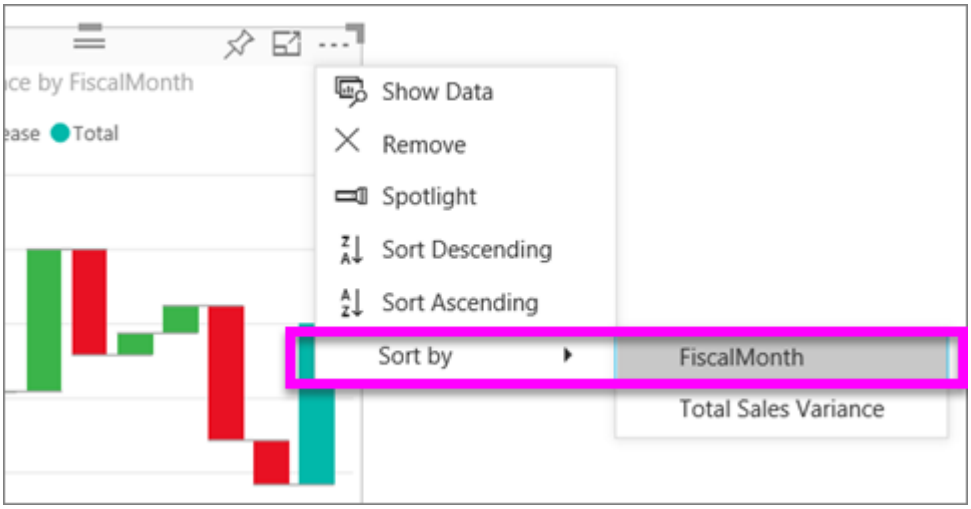
2. From the Fields pane, select ***Sales*** ➔ ***Total Sales Variance***. Convert the chart to a Waterfall. If Total Sales Variance isn't in the *Y Axis* area, drag it there.

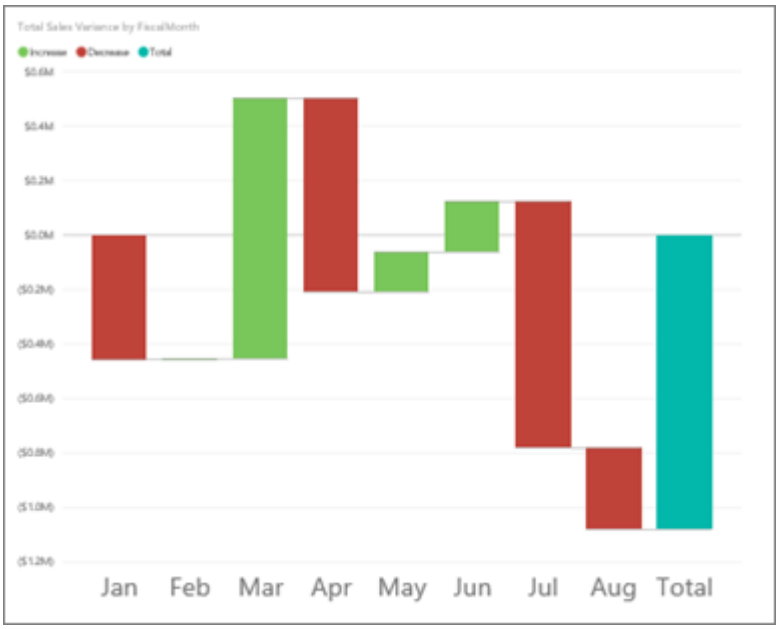


3. Select **Time ➔ FiscalMonth** to add it to the *Category* well.

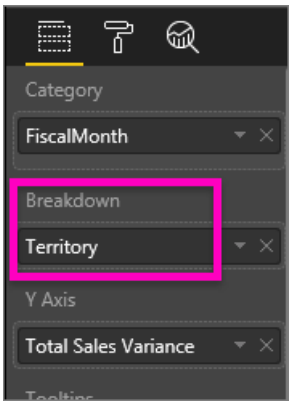


4. Sort the waterfall chart chronologically. From the top-right corner of the chart, select the ellipses (...) and choose FiscalMonth.

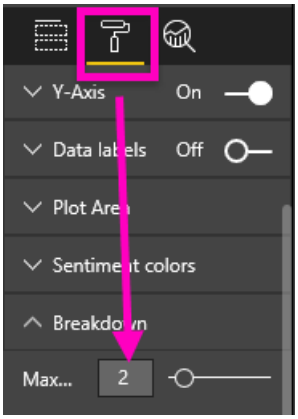




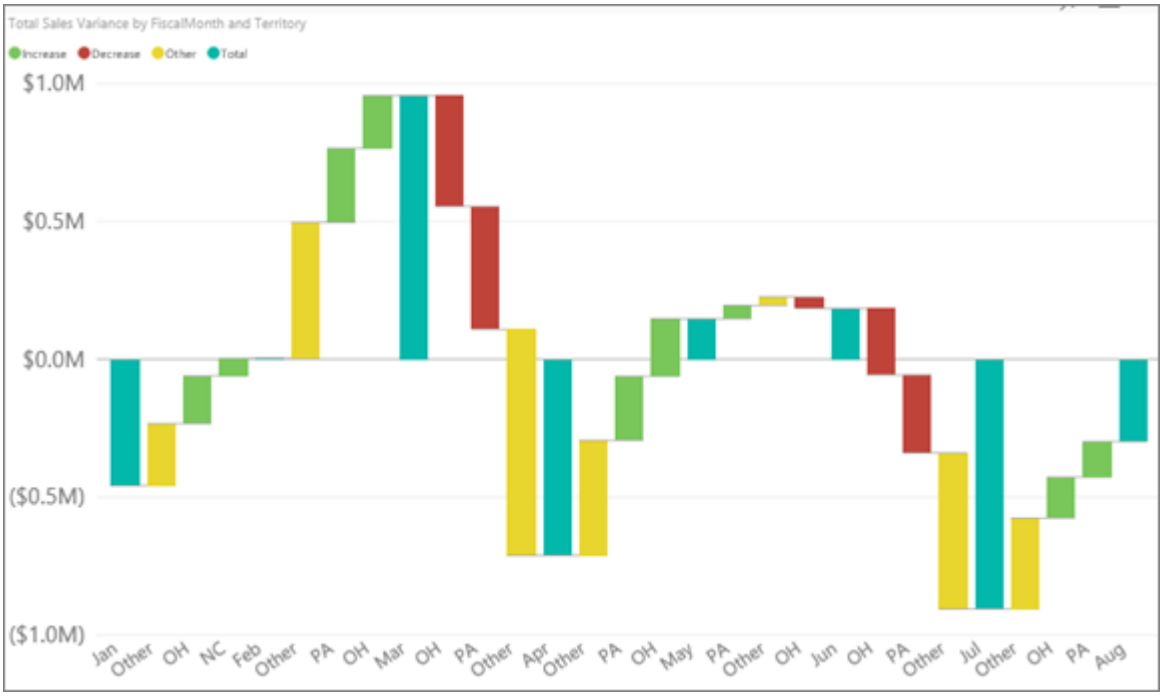
5. Dig in a little more to see what's contributing most to the changes month to month. Drag Store ➔ Territory to the Breakdown bucket.



6. By default, Power BI adds the top 5 contributors to increases or decreases by month. But we're only interested in the top 2 contributors. In the Formatting pane, select Breakdown and set Maximum to 2.



7. A quick review reveals that the territories of Ohio and Pennsylvania are the biggest contributors to movement, negative and positive, in our waterfall chart.



8. This is an interesting finding. Do Ohio and Pennsylvania have such a significant impact because sales in these 2 territories are much higher than the other territories? We can check that. Create a map that looks at this year sales value and last year sales by territory. Our map supports our theory. It shows that these 2 territories had the highest value of sales last year (bubble size) and this year (bubble shading).

7.2 Treemaps

7.2.1 Overview

Treemaps display hierarchical data as a set of nested rectangles. Each level of the hierarchy is represented by a colored rectangle (often called a "branch") containing other rectangles ("leaves"). The space inside each rectangle is allocated based on the value being measured. And the rectangles are arranged in size from top left (largest) to bottom right (smallest).

For example, if I'm analyzing my sales, I might have top-level rectangles, also called branches, for the clothing categories: Urban, Rural, Youth, and Mix. My category rectangles would be split into smaller rectangles, also called leaves, for the clothing manufacturers within that category. And these smaller rectangles would be sized and shaded based on the number sold.

7.2.1.1 Example

In the Urban branch above, lots of Maximus clothing was sold, less Natura and Fama, and few Leo. So, the Urban branch of my Treemap would have:

- the largest rectangle for Maximus in the top left corner
- slightly smaller rectangles for Natura and Fama
- lots of other rectangles for all the other clothing sold, and
- a tiny rectangle for Leo.

And I could compare the number of items sold across the other clothing categories by comparing the size and shading of each leaf node; larger and darker rectangles mean higher value.

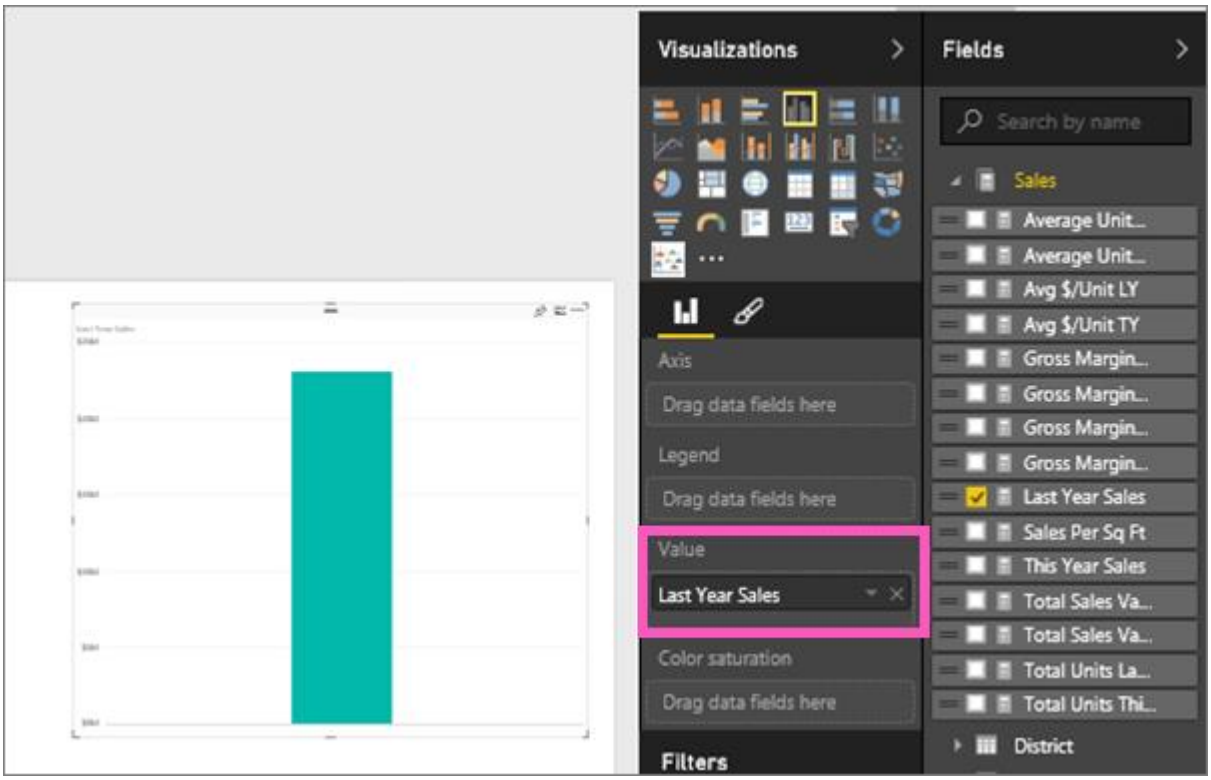
7.2.2 When to use a Treemap

Treemaps are a great choice:

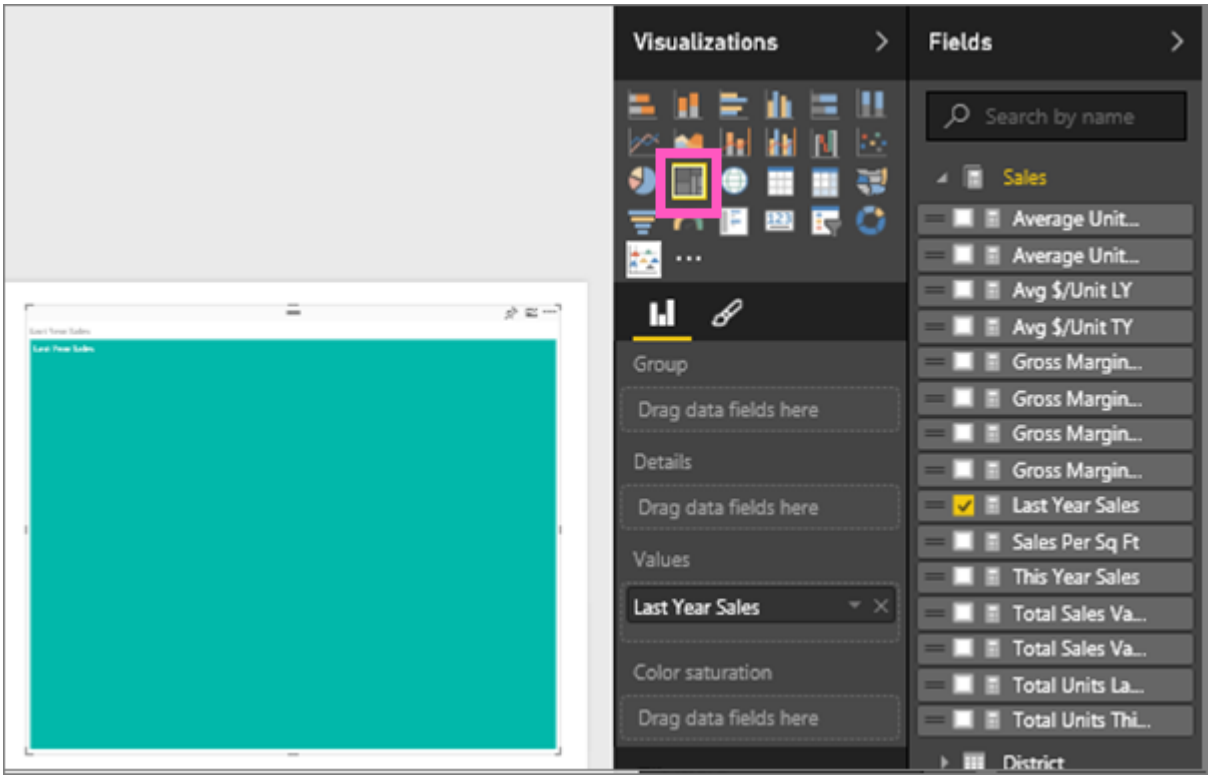
- to display large amounts of hierarchical data.
- when a bar chart can't effectively handle the large number of values.
- to show the proportions between each part and the whole.
- to show the pattern of the distribution of the measure across each level of categories in the hierarchy.
- to show attributes using size and color coding.
- to spot patterns, outliers, most-important contributors, and exceptions.

7.2.3 Create a Basic Treemap

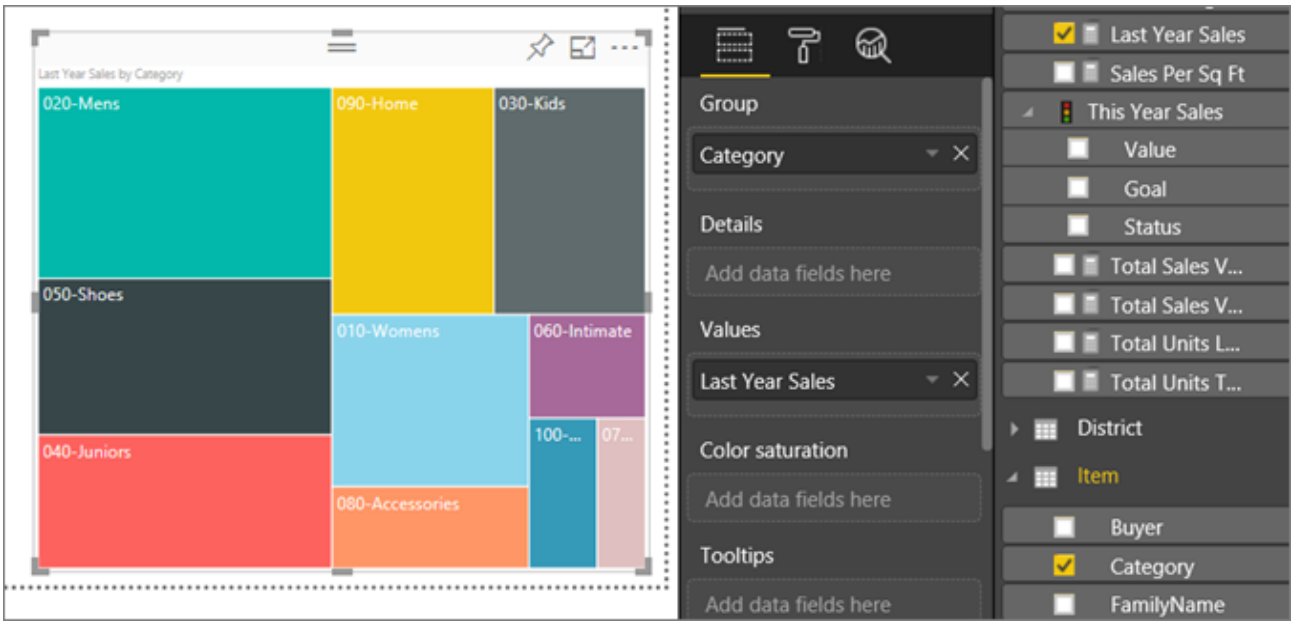
1. In "**Retail Analysis Sample**", creating visualizations in a report requires edit permissions to the dataset and report. Select the Total stores tile to open the Retail Analysis sample report. Open Editing View and select the **Sales ➔ Last Years Sales** measure.



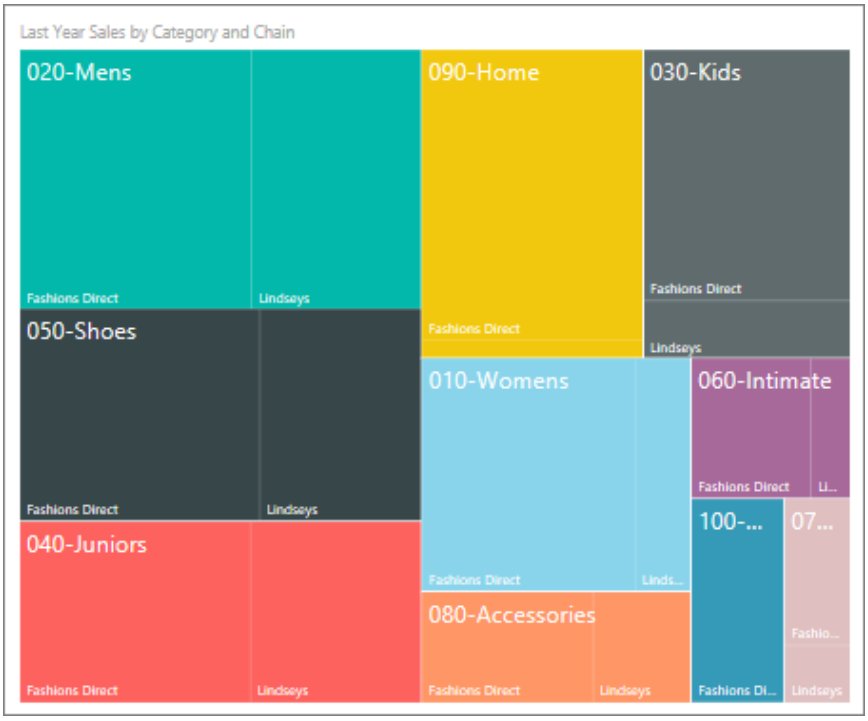
2. Convert the Chart to a Treemap.



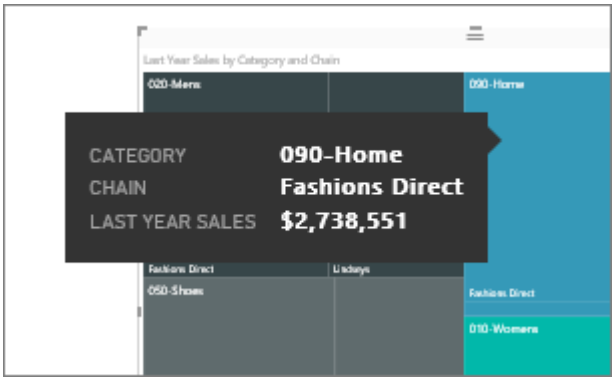
3. Drag **Item ➔ Category** to the **Group** well. Power BI creates a treemap where the size of the rectangles is based on total sales and the color represents the category. In essence you've created a hierarchy that visually describes the relative size of total sales by category. The Men's category has the highest sales and the Hosiery category has the lowest.



4. Drag **Store ➔ Chain** to the **Details** well to complete your treemap. You can now compare last year's sales by category and chain.



5. Hover over a Chain area to reveal the tooltip for that portion of the Category. For example, hovering over Fashions Direct in the 090-Home rectangle reveals the tooltip for Fashion Direct's portion of the Home category.



7.3 Report Filter

7.3.1 Editing View vs. Reading View

There are two modes for interacting with reports: Reading View and Editing View. And the filtering capabilities available to you depend on which mode you're in.

- In Editing View, you can add report, page, and visual filters. When you save the report, the filters are saved with it. People looking at the report in Reading View can interact with the filters you've added.
- In Reading View, you can interact with any report, drillthrough, page, and visual filters that already exist in the report, but you cannot add new filters. However, the changes you make in the Filters pane are saved with the report -- even if you view the report in a mobile app and even if you leave the report and return to it later.

7.3.2 Available Filters in Power BI Filters Pane

Whether you're using Desktop or Power BI service, the Filters pane displays along the right side of the report canvas. If you don't see the Filters pane, select the ">" icon from the upper-right corner to expand it. There are four types of filters.

- page filter applies to all the visuals on the report page
- visual filter applies to a single visual on a report page
- drillthrough filter applies to a single entity in a report
- report filter applies to all pages in the report