

Shri Ramswaroop Memorial University



Case Study on

Financial Forecasting and Profitability Report

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Definition: Develop an automated financial reporting system in IBM Cognos Analytics that provides revenue forecasts, expense analysis, and profitability trends for strategic decision-making.

Required Tool: IBM Cognos, Kaggle

Working: We will be downloading data from Kaggle and using it to make dashboard in IBM Cognos

Steps:

Look up Kaggle on google and click on the first link

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Wikipedia
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Kaggle
Kaggle is a data science competition platform and online community for data scientists and machine

Login on the platform with google and lookup for Financial data and find the file you feel appropriate and download it

217 Code Download :

DOWNLOAD VIA

kagglehub

New to Kaggle API? Here's how to set up your API keys.

```
import kagglehub

# Download latest version
path = kagglehub.dataset_download("mashlyn/online
-retail-ii-uci")

print("Path to dataset files:", path)
```

Download dataset as zip (15 MB)

Export metadata as Croissant

Tags

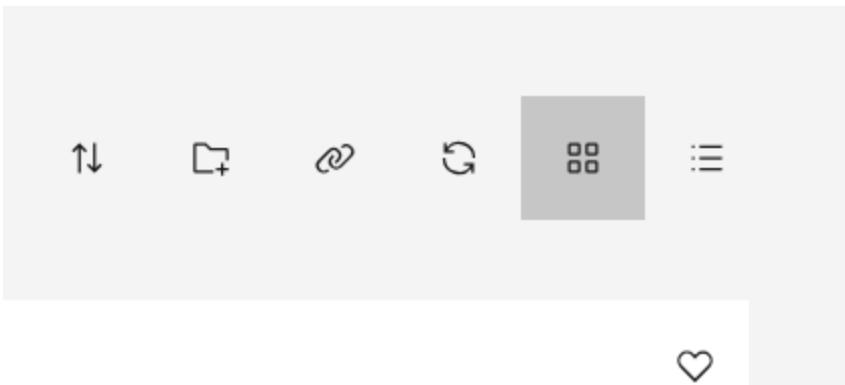
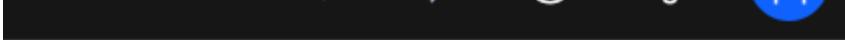
Extract the file then login to your IBM Cognos account

The screenshot shows the IBM Cognos Analytics product page on the IBM website. At the top, there's a navigation bar with links for AI, Hybrid Cloud, Products, Consulting, Support, Think, and a search bar. Below the navigation is a secondary navigation bar with links for IBM Cognos Analytics, Features, Use cases, Pricing, Resources and support, Sign in, My IBM, and Log in. The main content area features a large heading "IBM Cognos Analytics" and a sub-headline: "Unlock your data's full potential with next-gen BI reporting, AI-powered insights, and interactive visualizations". Below this are two buttons: "See pricing options" and "Try it free". A play button icon is also present.

Once the platform opens, click on the three lines in the top left corner then click on content

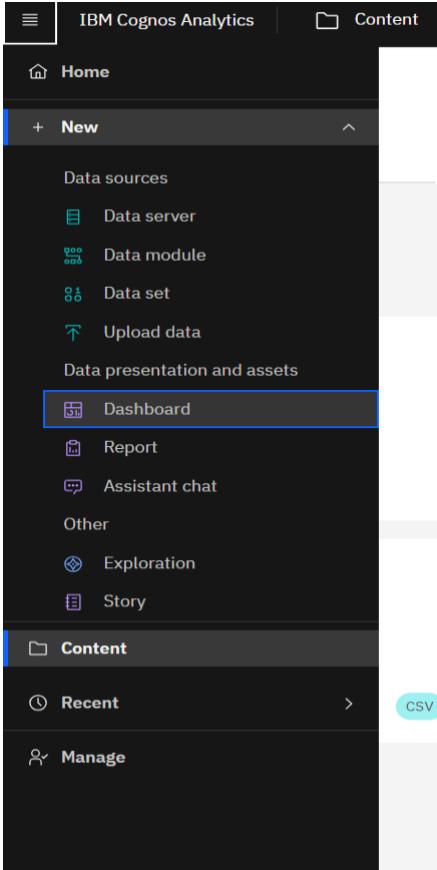
The screenshot shows the IBM Cognos Analytics interface. On the left, there's a sidebar with navigation options: Home, New, Content (which is selected and highlighted in blue), Recent, and Manage. The main content area has a "Create" section with the sub-instruction: "Select or upload data and create content." At the bottom of the screen, there are tabs for Team content, Samples, and Favorites.

Then click on Upload data in the top right corner



Select the file you will be using to make the dashboard then wait for it to be uploaded completely

Then click on the three lines then New in top left corner then on dashboard



Select the blank Templet then click on Create

The screenshot shows the 'Create a dashboard' page in IBM Cognos Analytics. At the top, there are tabs for 'Tabbed', 'Infographic', and 'Responsive'. Below the tabs is a grid of 12 template preview cards. The first card in the top-left corner is highlighted with a blue border, indicating it is selected. To the right of the grid are two buttons: 'Cancel' and 'Create'.

Then click on “Select a source”

The screenshot shows the 'Select a source' interface. On the left is a vertical toolbar with icons for Data, Visualizations, and other dashboard components. The 'Data' icon is currently selected and highlighted with a blue border. The main panel displays a large 3D cube icon with the text 'Select a source' below it. A descriptive message at the bottom says: 'Click select a source to add data to use to build a dashboard.' At the bottom of the main panel is a blue button labeled 'Select a source' with a '+' sign next to it.

Then on “My Content”

Select a source

The screenshot shows a user interface for selecting a data source. At the top, there are two tabs: "My content" (which is selected) and "Team content". Below the tabs is a table with three columns: "Name", "Type", and "Last Modified". The table contains two rows:

Name	Type	Last Modified
HR_Analytics.csv	Uploaded file	9/9/2025, 5:23 AM
teleCust1000t.csv	Uploaded file	11/2/2025, 11:17 AM

At the bottom of the table area, there are three small icons: a downward arrow, an upward arrow, and a gear. Below the table is a dark grey footer bar with two buttons: "Cancel" on the left and "Add" on the right.

Select the file you want, then click on add

Once the file is open, we can start building the dashboard.

We can add Visualizations to our dashboard through this panel

The screenshot shows a "Visualizations" panel. On the left is a vertical toolbar with icons for different visualization types: a bar chart (selected), an area chart, a scatter plot, a bullet chart, and a donut chart. The main area is titled "Visualizations" and has tabs for "System" and "Custom". Below the tabs are six visualization options arranged in a grid:

Area	Bar	Box plot
Bubble	Bullet	Column

For our purpose, which is to analyze the following:

Revenue forecasts
Expense analysis
Profitability trends

We will use simple charts like:

Line Chart



Line

Bar Chart



Bar

Stacked Column Chart



Stacked
column

Line Chart



Line

We will be splitting our dashboard into different tabs which will be for:

Profitability Overview
Expense Analysis
Revenue Forecast

For starters we will adjust the Theme of the dashboard

The screenshot shows the IBM Cognos Analytics dashboard editor interface. On the left, there's a sidebar with icons for navigation, search, and filters. The main area is titled "Tab 1" and contains a blank grid background. On the right, there's a properties panel with several sections:

- Show grid**: A toggle switch is turned on.
- Snap to grid**: A toggle switch is turned on.
- Snap to objects**: A toggle switch is turned on.
- Footer**: A toggle switch is turned on.
- Filter panel**: A section with a collapse arrow.
- Color and theme**: A section with a collapse arrow.
 - Visual theme**: A dropdown menu with options "Carbon X Dark" (selected), "Carbon X Light", and "Carbon X Dark".
 - Background color**: A dropdown menu with options "Default" (selected), "Tab 1", and "Tab 2".
- Tab labels**: A section with a collapse arrow.
- Cascading filter settings**: A section with a collapse arrow.
- Visualization header icons**: A section with a collapse arrow.
- Advanced**: A section with a collapse arrow.

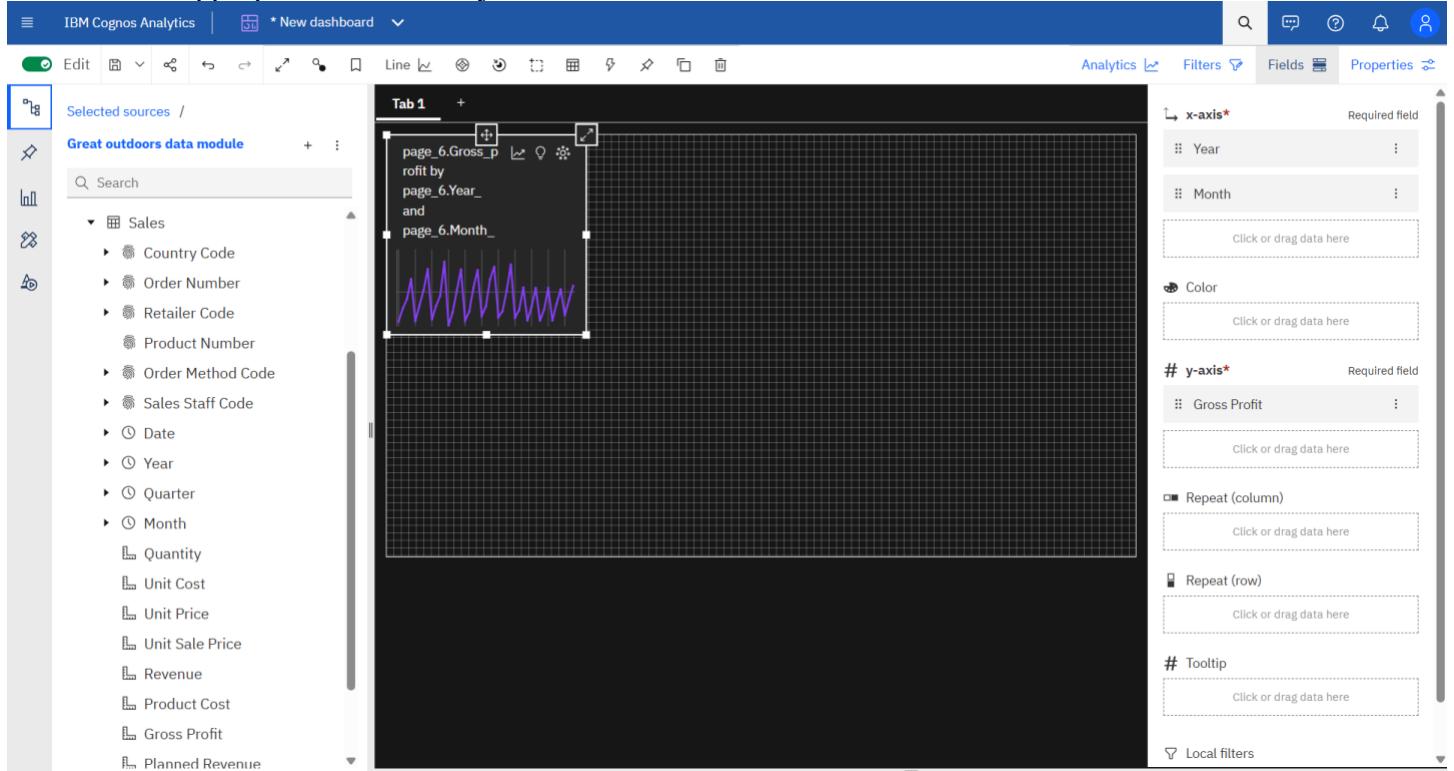
Now we will work on Tab 1

First we will use a Line Chart

The screenshot shows the IBM Cognos Analytics dashboard editor interface. On the left, there's a sidebar with icons for navigation, search, and filters. The main area is titled "Tab 1" and contains a line chart with a grid background. The chart has a single data series represented by a line with open circles. On the right, there's a properties panel with several sections:

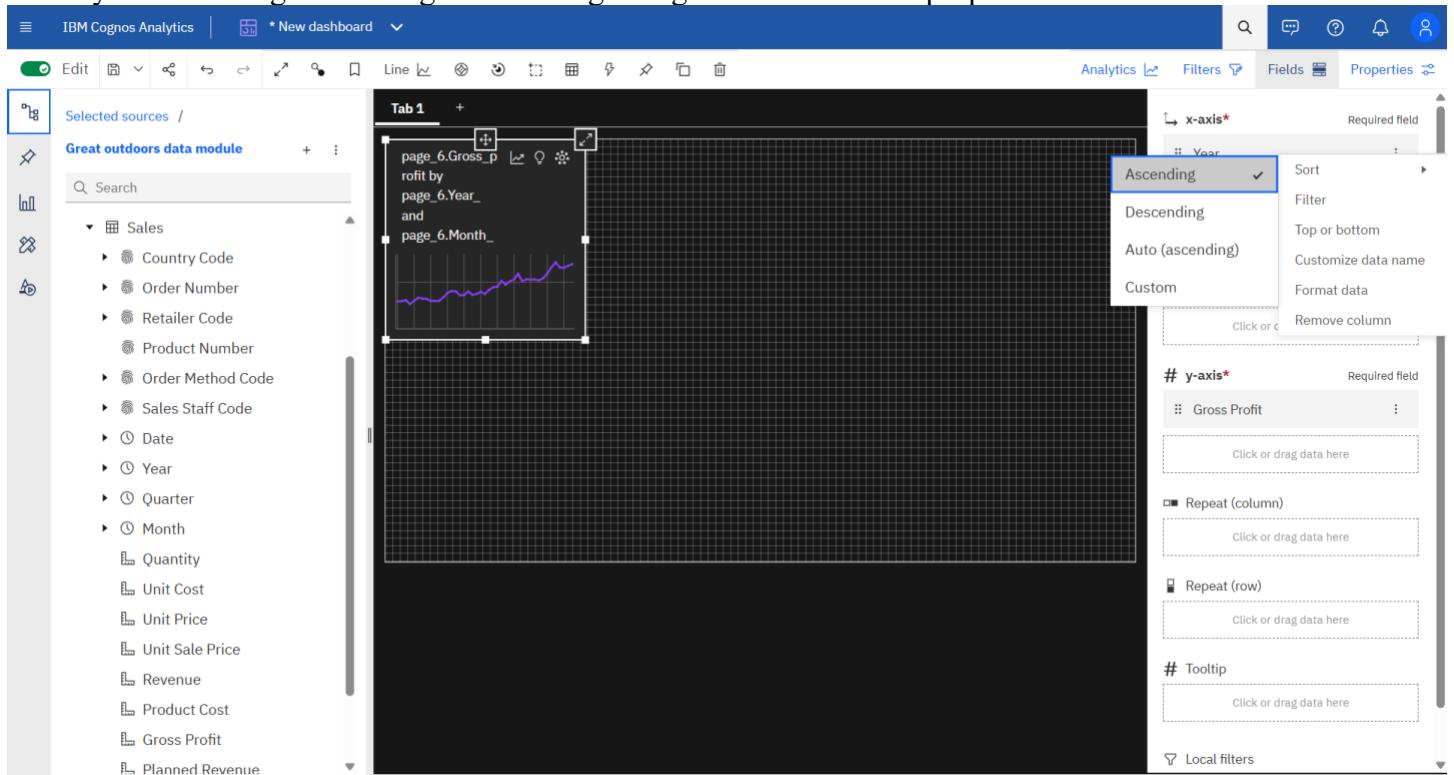
- Selected sources /**: A section showing "Great outdoors data module" and a search bar.
- Line**: A section with a dropdown menu showing "Line".
- x-axis***: A section labeled "Required field" with a placeholder "Click or drag data here".
- Color**: A section with a placeholder "Click or drag data here".
- y-axis***: A section labeled "Required field" with a placeholder "Click or drag data here".
- Repeat (column)**: A section with a placeholder "Click or drag data here".
- Repeat (row)**: A section with a placeholder "Click or drag data here".
- Tooltip**: A section with a placeholder "Click or drag data here".
- Local filters**: A section with a placeholder "Click or drag data here".

Then add the appropriate fields to it, just as such

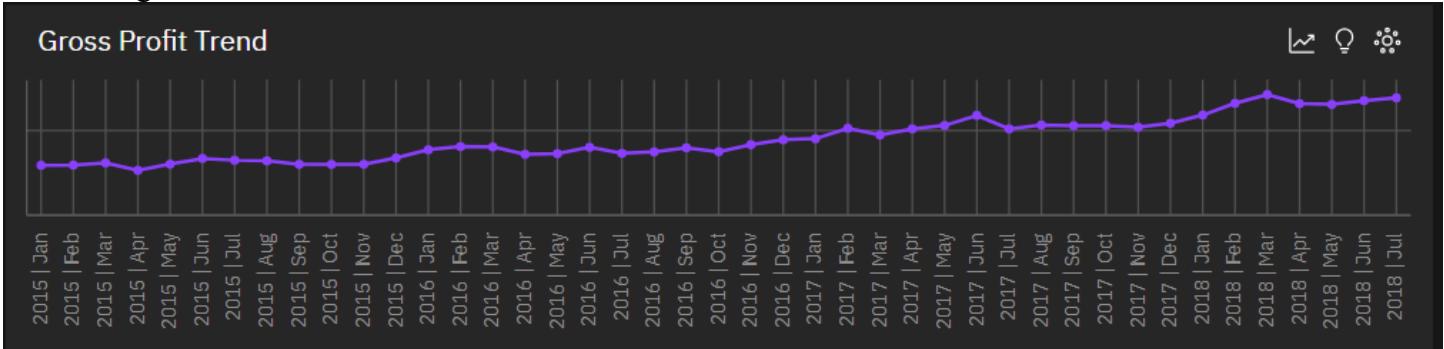


Make sure to change the sorting.

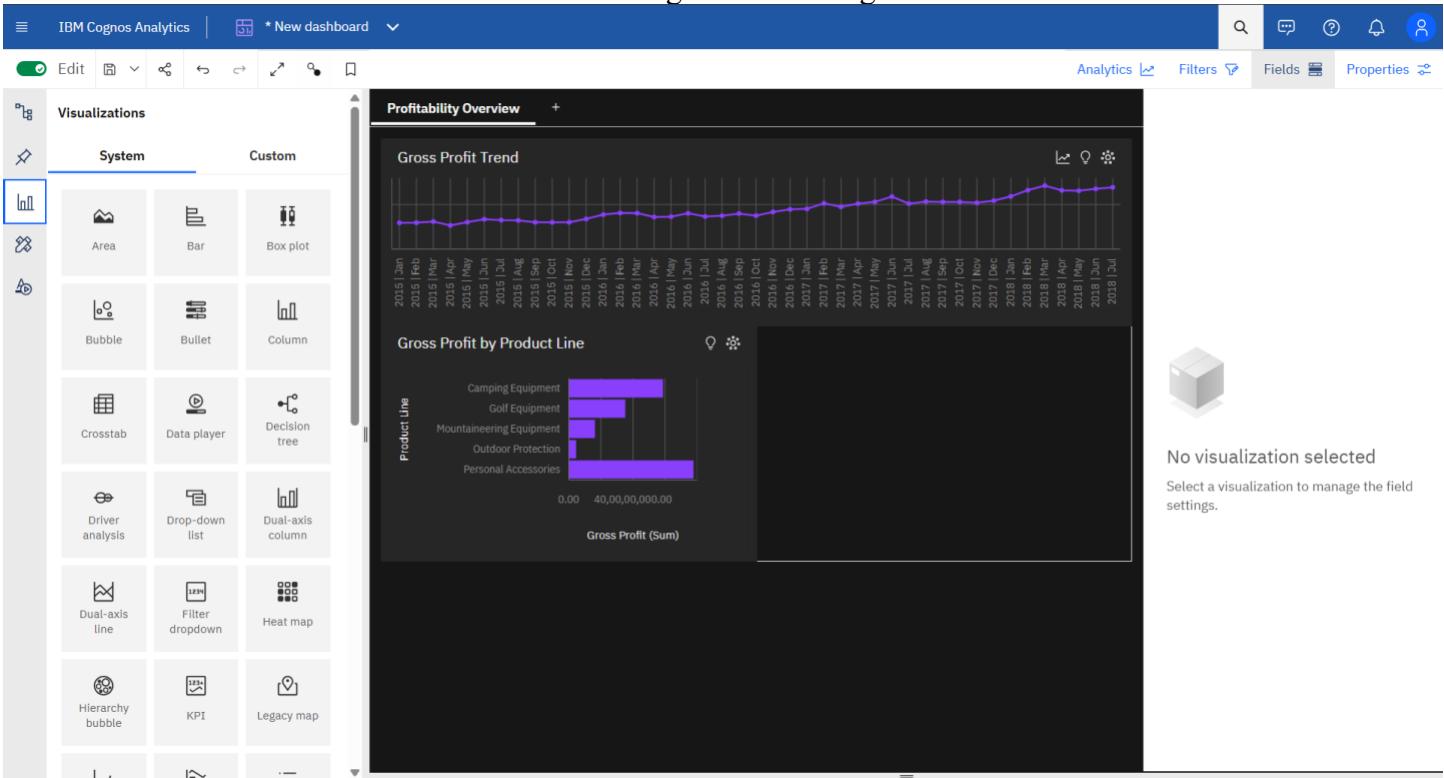
Select year and change its sorting to ascending to organize the data in a proper order



Then change the name/title of the chart and resize it

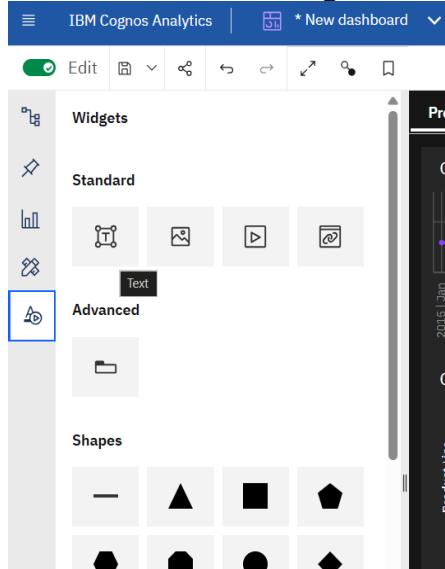


Then we will add a bar chart and add the fields along with renaming the chart as such

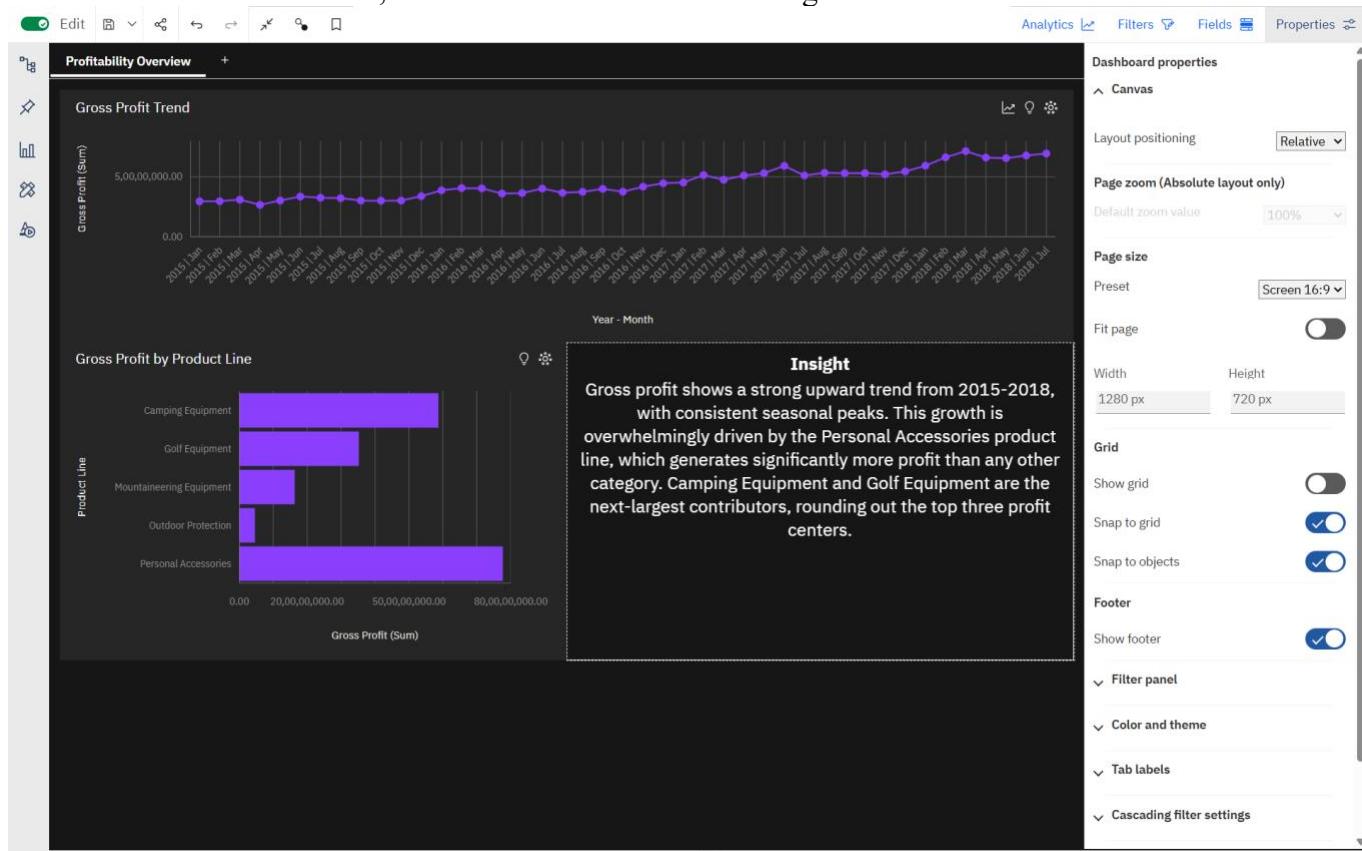


Then we will add text widget for adding our insight.

We can find the text widget from the widget panel

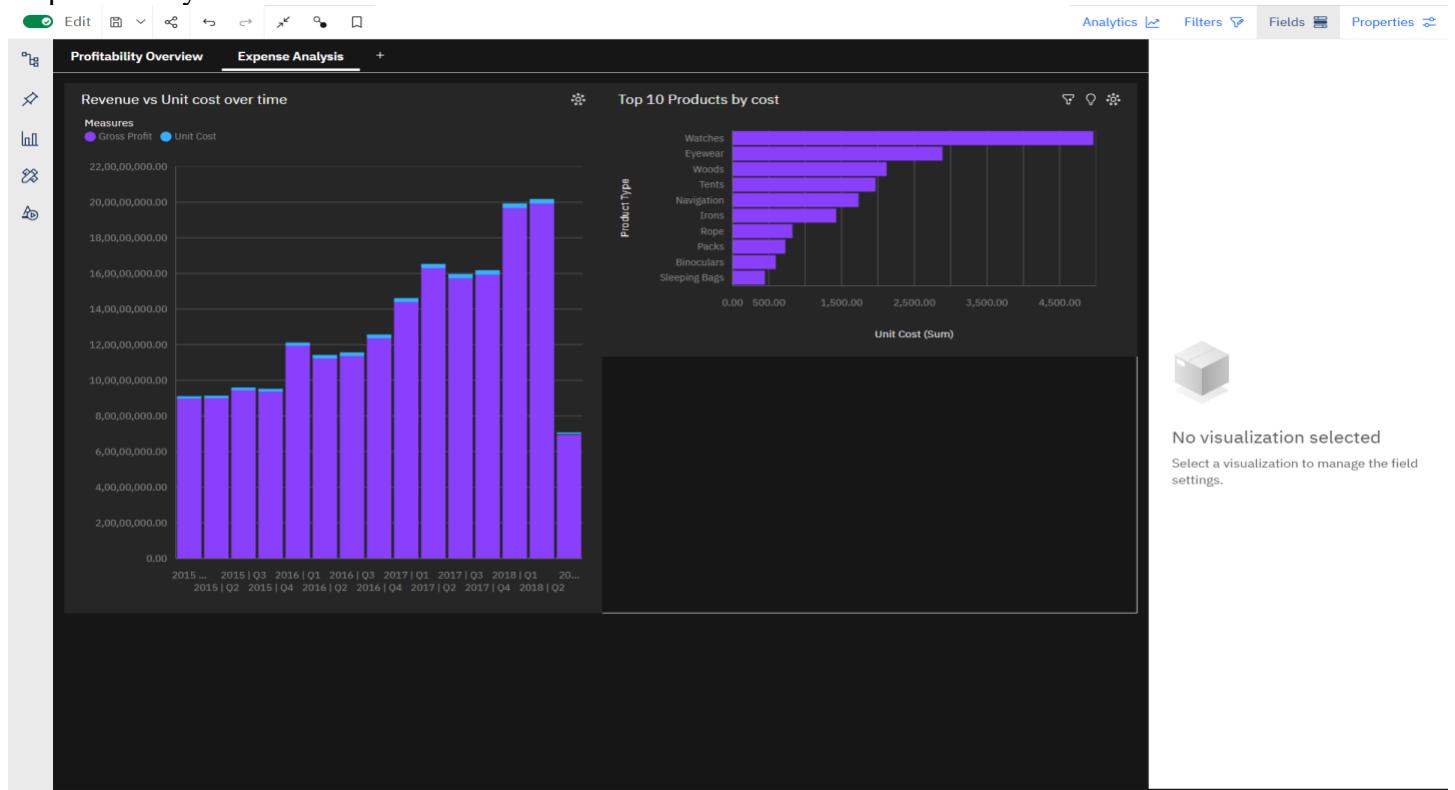


Once added to the dashboard, we can resize it and add the insight we want



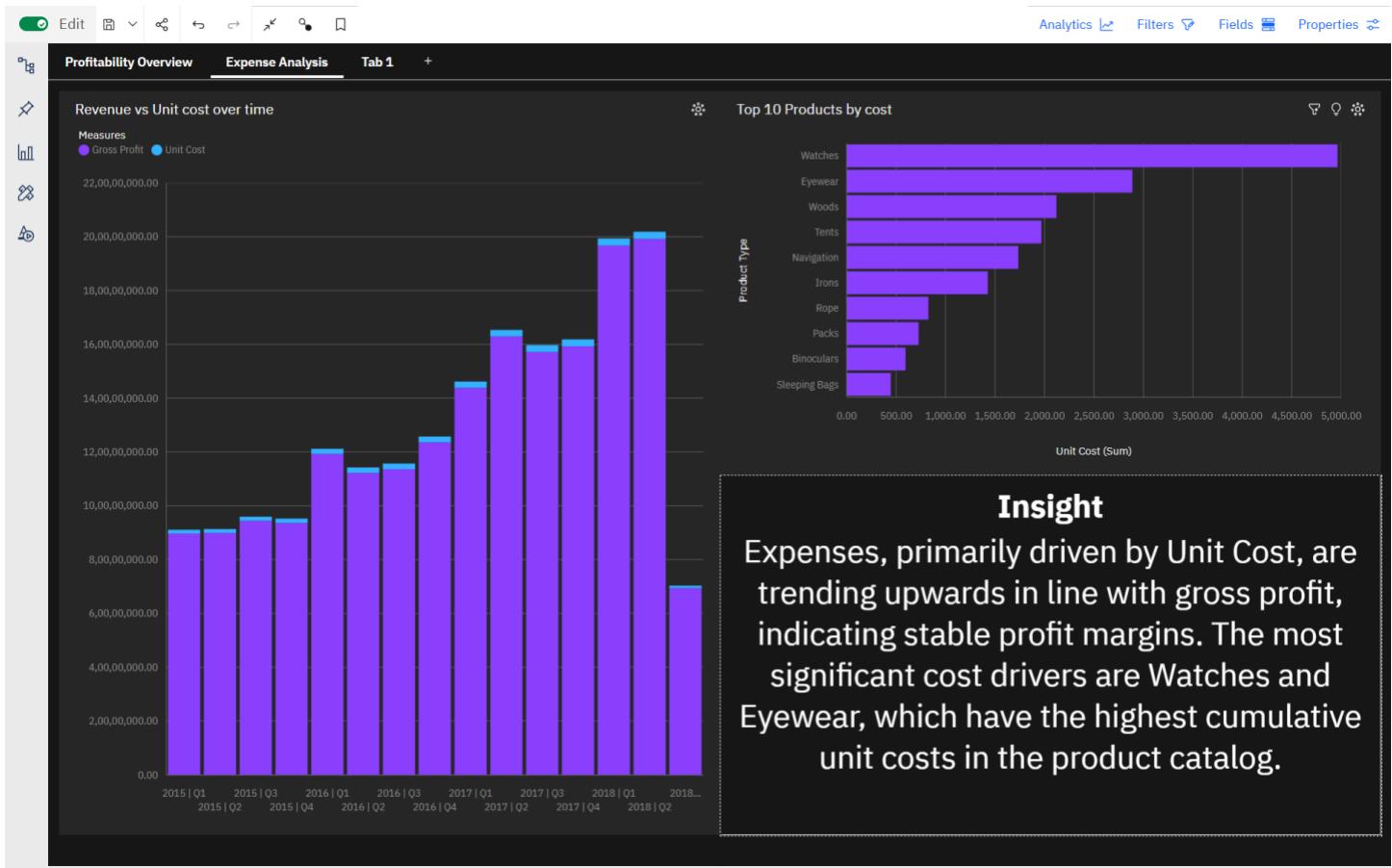
For next tab we will be working on Expense Analysis

For this we will be using a stacked column chart to show the revenue vs unit cost and a bar chart to show the top 10 products by cost



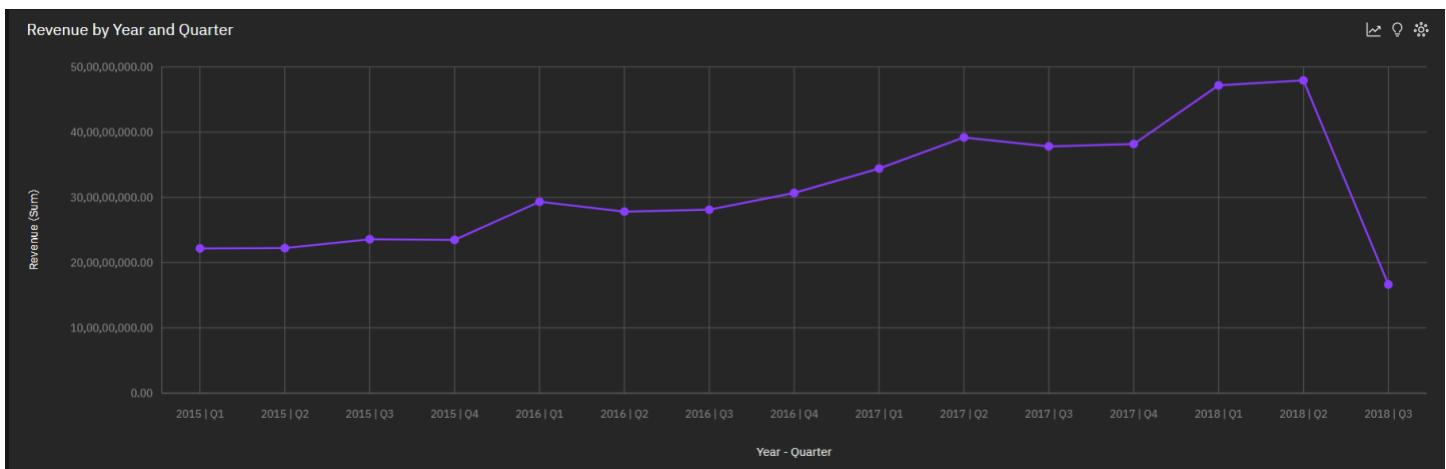
Then we will add our insight to the tab using the Text widget

The screenshot shows the IBM Cognos Analytics interface. At the top, it says "IBM Cognos Analytics" and "New dashboard". Below the toolbar, there is a sidebar with categories: "Widgets", "Standard", "Advanced", and "Shapes". The "Text" icon in the "Advanced" category is highlighted with a blue border. To the right, a preview of a dashboard is visible, showing a stacked column chart and a bar chart.

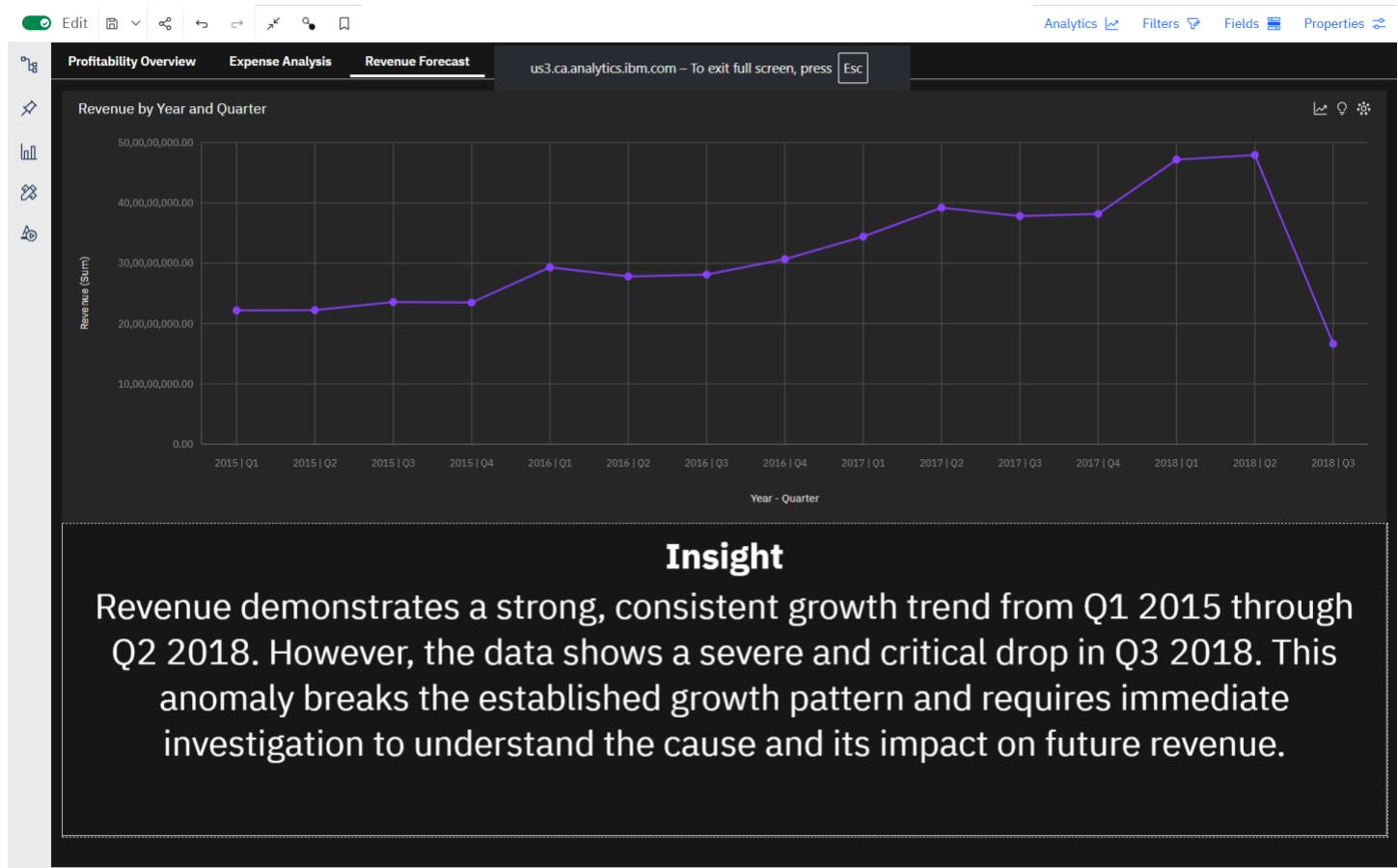


For our last tab, we will be work on Revenue Forecast

We will use a Line Chart for this



Now we will add our Insight



We can export our dashboard by following these steps



Click on this icon in top left corner

Share

X

Link

Export

Export to PDF

If you are using a Windows operating system, ensure that you installed a PDF driver. For more information about exporting to PDF, [click here](#).

Page size

Orientation

Letter

Portrait

Include filters

Cancel

Export

Adjust the dimensions of the export file and click on export