

SUSTAINALYTICS:

RECYCLING CENTER PERFORMANCE ANALYSIS

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1.0 Introduction

1.1 Dashboard Metaphor

As you may be aware, the dashboard of a car indicates and gives feedback on the status of the vehicle, including speed, needs, service, tire pressure, fuel level, and other factors. In the meantime, Google Data Studio's dashboard discovers related data and provides feedback.

1.2 What is Dashboard?

A dashboard is a user interface that presents crucial data in an intuitive way. Key performance indicators (KPIs) and other data are frequently presented in dashboards for quick viewing. They are applicable in a number of fields, including business, finance, healthcare, and technology. Users can drill deeper into the data for additional in-depth research using interactive dashboards. Additionally, they can be altered to display particular metrics or data sets that are important to the user.

1.3 The purpose of a dashboard

A dashboard's exact purpose will depend on the data it is displaying and how it is intended to be used. The following are some typical dashboard features:

- Key performance indicators (KPIs) monitoring: Dashboards can be used to monitor critical metrics like revenue, earnings, or satisfaction with clients.
- Finding trends and patterns: By assisting users in finding trends and patterns in data over time, dashboards help them make better decisions.
- Supporting decision-making: Dashboards can give users the knowledge they need to make wise choices, such as spotting issues or areas for development.
- Monitoring progress towards goals, such as sales targets or cost savings, is possible with the use of dashboards.

2.0 Dashboard development tools

2.1 Dashboard development tools example:

- Google Looker Studio
- Tableau Public
- Microsoft Power BI
- Google Sheets
- Microsoft Excel



2.2 Tools Comparison

Tool	Summary	Ease of Use	How to Access	Prior Knowledge Required
Google Looker Studio	A data exploration and visualization platform by Google.	User-friendly interface.	Web-based platform.	Basic understanding of data analysis.
Tableau Public	Data visualization software for creating interactive dashboards and reports.	Intuitive drag-and-drop interface.	Desktop or web-based application.	Basic understanding of data analysis.
Power BI	Microsoft's business analytics tool for creating interactive dashboards and reports.	User-friendly interface.	Desktop or web-based application.	Basic understanding of data analysis.
Google Sheets	A cloud-based spreadsheet software by Google.	Familiar interface for Excel users.	Accessible via a web browser or mobile app.	Basic understanding of spreadsheets.
Microsoft Excel	A widely used spreadsheet software by Microsoft.	Familiar interface for most users.	Installed on a computer or accessible through the Microsoft 365 suite.	Basic understanding of spreadsheets.

3.0 Google Looker Studio

What is Google Looker Studio?

A reporting tool that transforms data into clear and comprehensible dashboards.

Perks Of Google Looker Studio

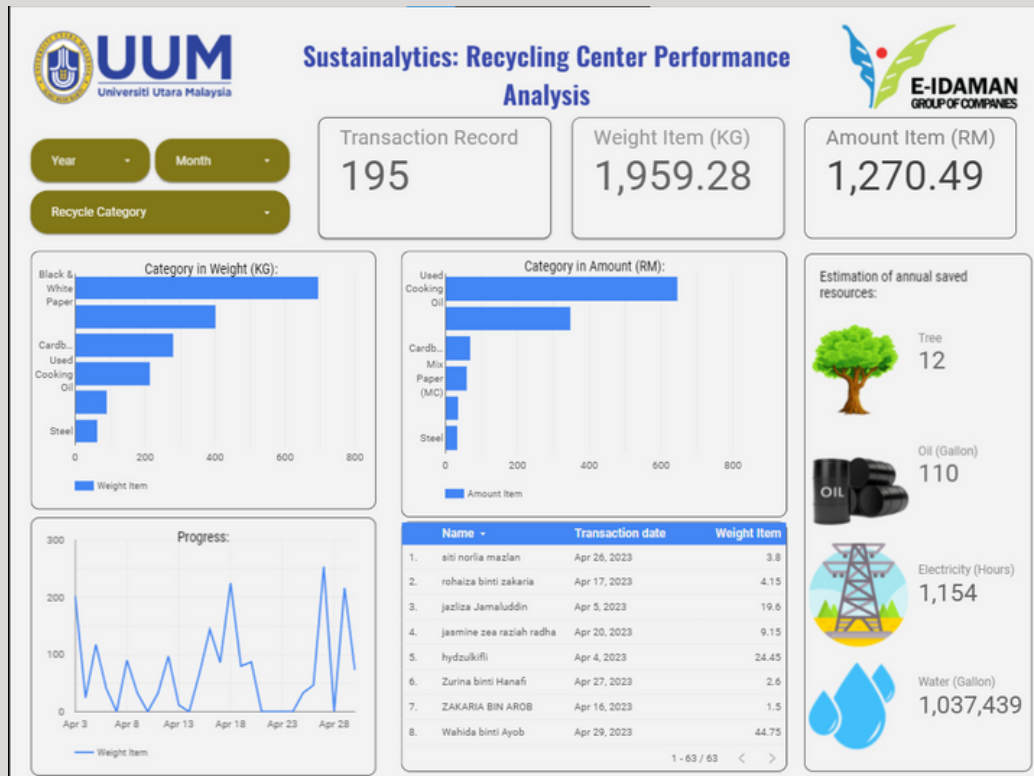
- Provides a variety of choices for visualizing data
- Multiple Data Sources Connected. Examples include (Google Ads, Analytics, Search Console, Sheets, etc.)
- Reports that are simple to distribute and don't require access to a particular data source.
- facilitating the creation and comprehension of reports.
- Facilitating the creation and comprehension of reports.

How to Access Google Looker Studio

In order to use Google Looker Studio, you must first have a Looker account and be logged in to the platform. Here are the steps to get into Looker Studio:

1. Navigate to the Looker page and click the "Sign In" icon in the top right corner.
2. Fill in your Looker login details (email address and password) and hit "Sign In."

4.0 Introduction to Sustainalytics: Recycling Center Performance Analysis Dashboard



A Recycling Center Performance Analysis dashboard is a tool used to monitor and evaluate the efficiency and effectiveness of a recycling center's operations. It provides a visual representation of key performance indicators (KPIs) and metrics that are relevant to the recycling center's goals and objectives.

Overall, a Recycling Center Performance Analysis dashboard provides an intuitive and centralized platform for tracking, analyzing, and optimizing the performance of a recycling center. It empowers stakeholders to make data-driven decisions, improve operational efficiency, and promote sustainability in waste management.

5.0 Dashboard Development

To develop a dashboard there are a few steps that need to be fulfilled. The following are the general steps you can take to create a dashboard:

Step 1: Preparing Dataset

Based on the dataset that has been provided by E-Idaman , direct conversion from Microsoft Excel to a spreadsheet can cause errors to occur during the dashboard development process. In order to prevent this from happening, some modifications to the dataset need to be made. The figure below illustrates the modification process of the dataset.

ITEM NAME	Black & White Paper	Cardboard (OCC)	Glass	HDPE	
TOTAL KG	Sum of Amount	TOTAL KG	Sum of Amount	TOTAL KG	Sum of Amount
Ahmad Nasyran bin Azrae					
Apr					
20-Apr					
Al Hanisham Mohd Khalid		7.4	1.85		
Apr		7.4	1.85		
5-Apr					
Apr					
10-Apr		7.4	1.85		
Apr		7.4	1.85		
17-Apr					
Apr					
Ani Asmaa bt Asli	23.3	11.66			
Apr	23.3	11.66			
5-Apr	5.55	2.78			
Apr	5.55	2.78			
6-Apr	7.65	3.83			
Apr	7.65	3.83			
11-Apr	10.1	5.05			
Apr	10.1	5.05			

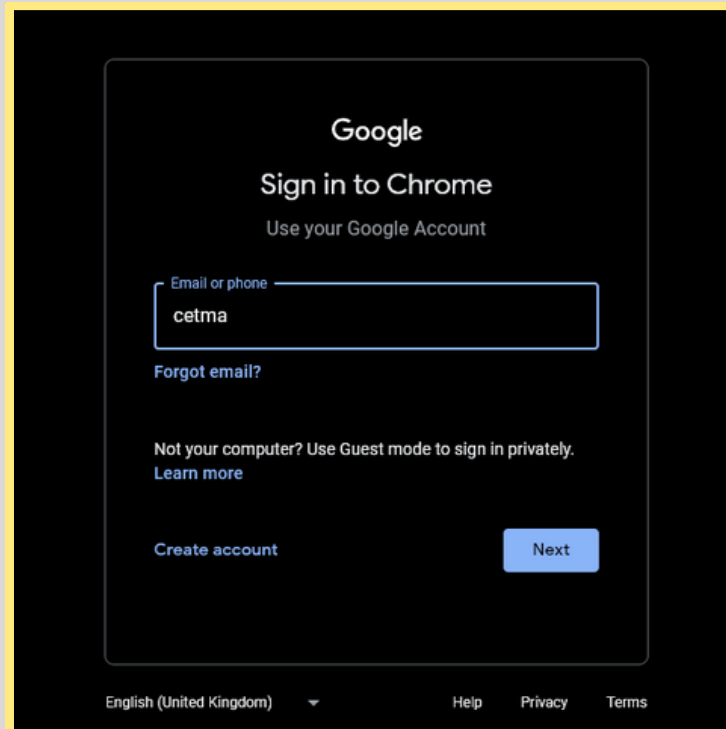


	A	B	C	D	E	F
1	Name	Gender	Transaction date	Item	Weight Item	Amount Item
2	Ahmad Nasyran bin Azrae	Male	4/20/2023	Mix Paper (MC)	29.8	4.47
3	Al Hanisham Mohd Khalid	Male	4/17/2023	Used Cooking Oil	11.1	33.3
4	Al Hanisham Mohd Khalid	Male	4/17/2023	PET (Mineral Water)	1.3	0.52
5	Al Hanisham Mohd Khalid	Male	4/17/2023	Cardboard (OCC)	7.4	1.85
6	Ani Asmaa bt Asli	Female	4/11/2023	Black & White Paper	23.3	11.66
7	ANIS SYAZWINA BINTI HAZRO	Female	4/5/2023	Black & White Paper	1.55	0.78
8	Arifatul Husna	Female	4/16/2023	Black & White Paper	6.15	3.08
9	Arifatul Husna	Female	4/16/2023	Glass	0.95	0.05
10	Arifatul Husna	Female	4/16/2023	Mix Paper (MC)	1.55	0.24
11	Arifatul Husna	Female	4/16/2023	Mix Plastic	0.8	0.24
12	Arifatul Husna	Female	4/16/2023	Used Cooking Oil	8.85	26.55
13	ARNI SHAHANIM BINTI AHMAD ZAINI	Female	4/11/2023	Cardboard (OCC)	9.2	2.3
14	Ayantola Taofikat Bukola	Male	4/25/2023	Cardboard (OCC)	6.9	1.73
15	Ayantola Taofikat Bukola	Male	4/25/2023	PET (Mineral Water)	9.15	3.66

Step 2: Log in to Google Data Studio and create a new report

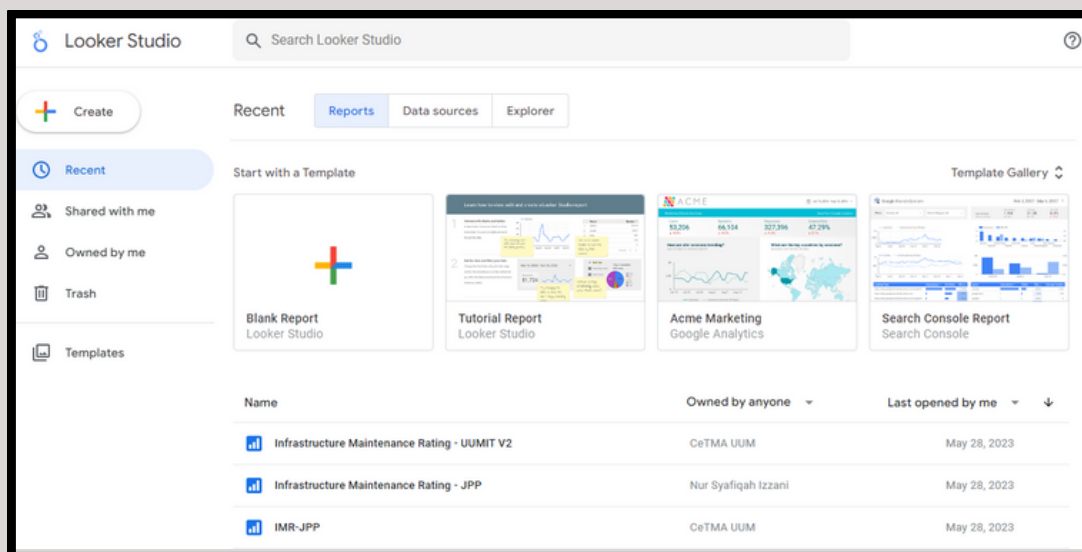
Log In

Log in to Data Studio at datastudio.google.com. A Google account is required to access Data Studio.



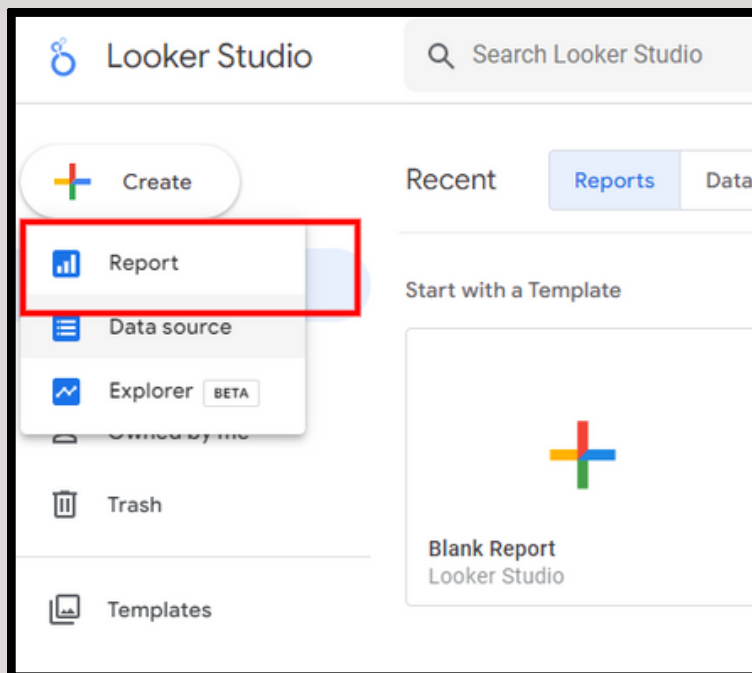
Create Blank Report

After successfully signing up or login in, you will see the Google Data Studio main interface as seen below.



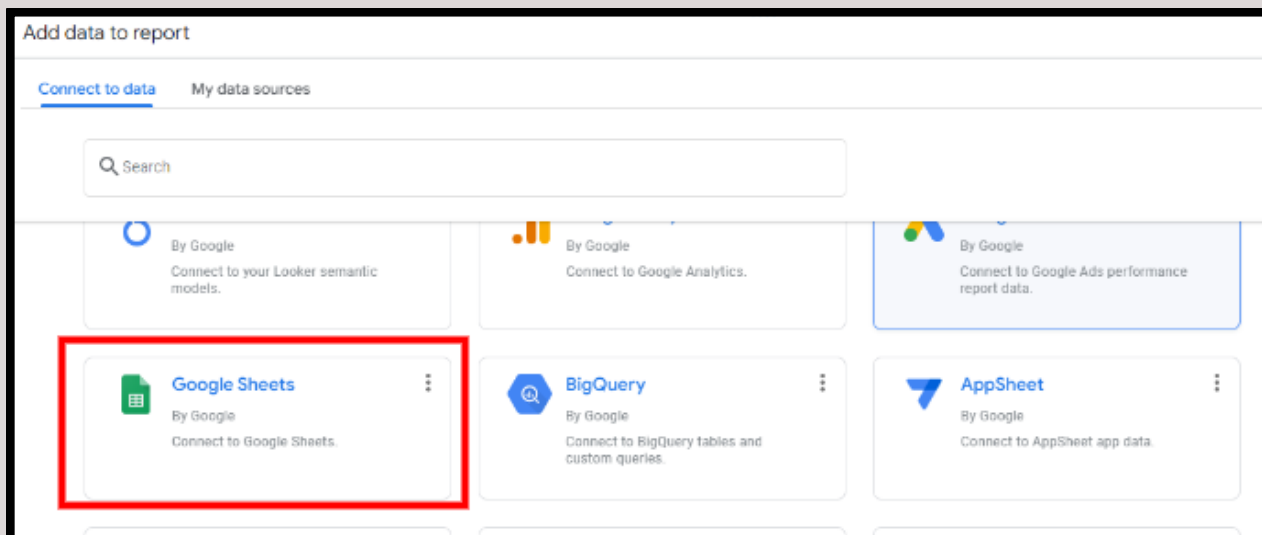
Main Page Google Data Studio

Click the "Create" button, then pick "Report" for the new report template.

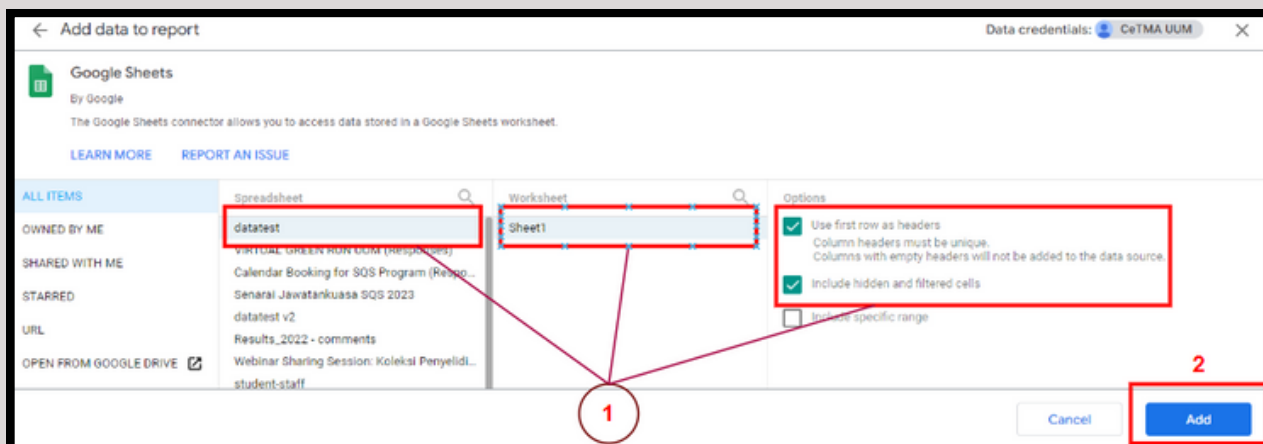


Step 3: Connect your Google Sheets data to Data Studio

You will notice numerous connectors that can be connected to create a Data Studio report. We will solely use the Google Sheets connector for this dashboard. So, look for Google Sheets and then click on it.

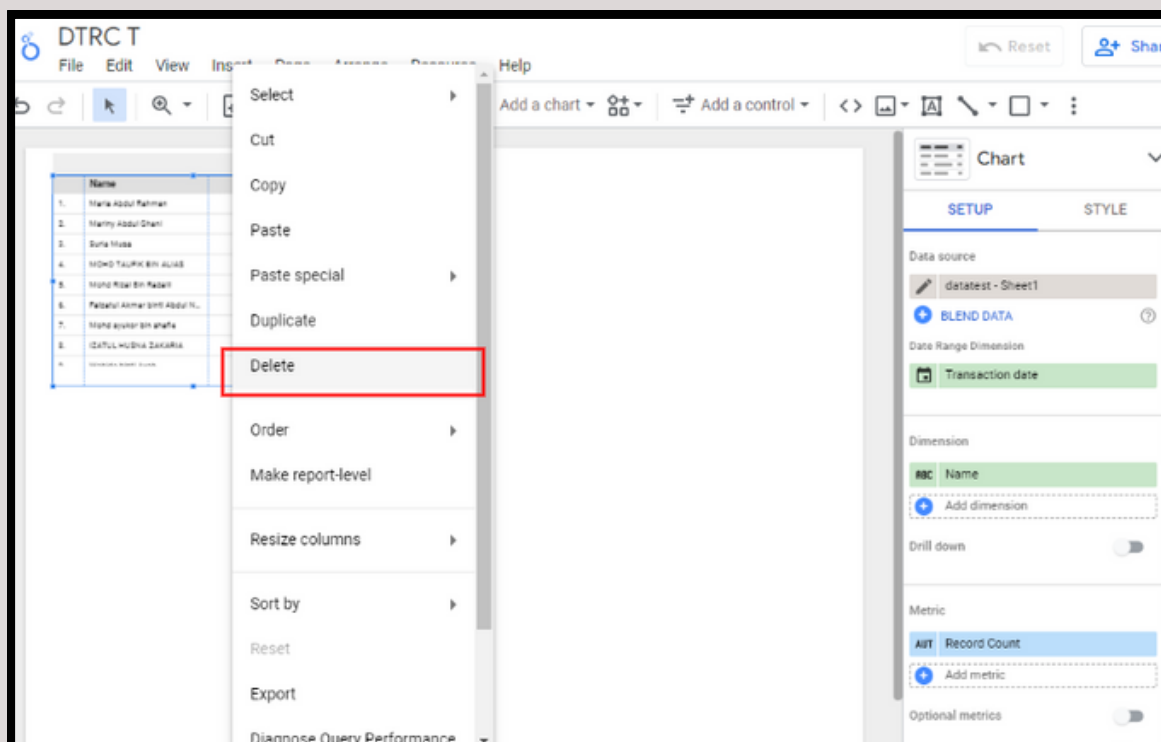


After selecting Google Sheets, pick your data in 'Spreadsheet', 'worksheet', and 'options' that you wish to use to create a report. When finished, click the "Add" button in the lower right corner.

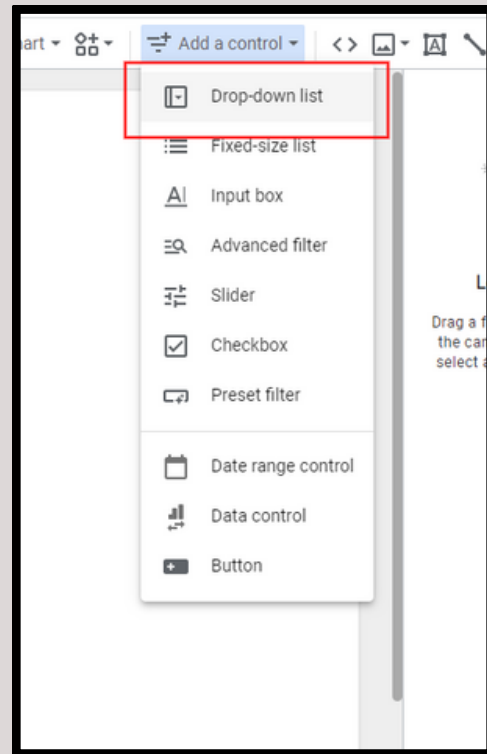
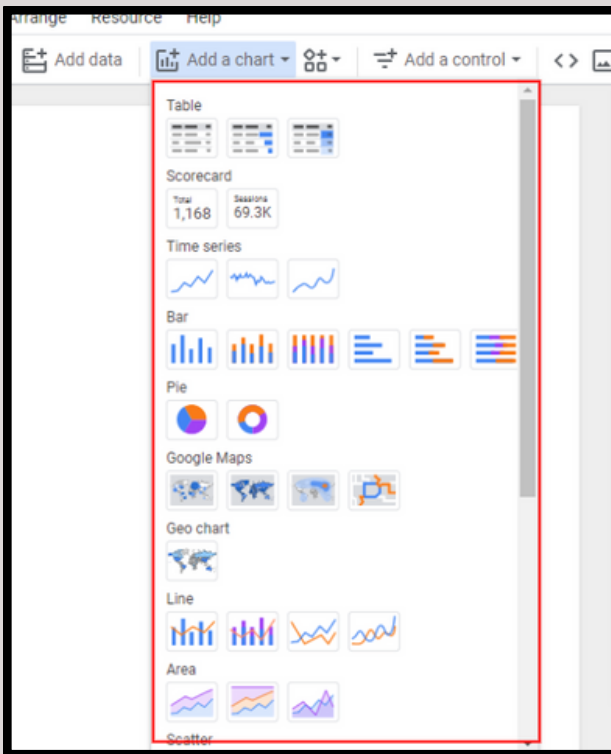


Step 4: Insert Elements into the Dashboard

After we have completed the data source configuration, we will add elements to our dashboard. The table that appears is generated automatically. You can erase the 'table' by right-clicking on it and selecting 'Delete' from the menu, or by pressing the 'Delete' key on your keyboard.

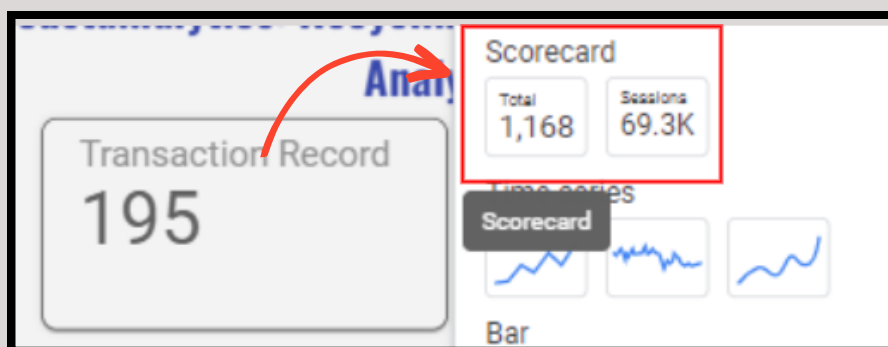


This Dashboard contains five elements: 'Table', 'Scorecard', 'Bar Chart', and 'Time Series Chart'. Only utilize the Drop-down list for the 'Add a control' function.

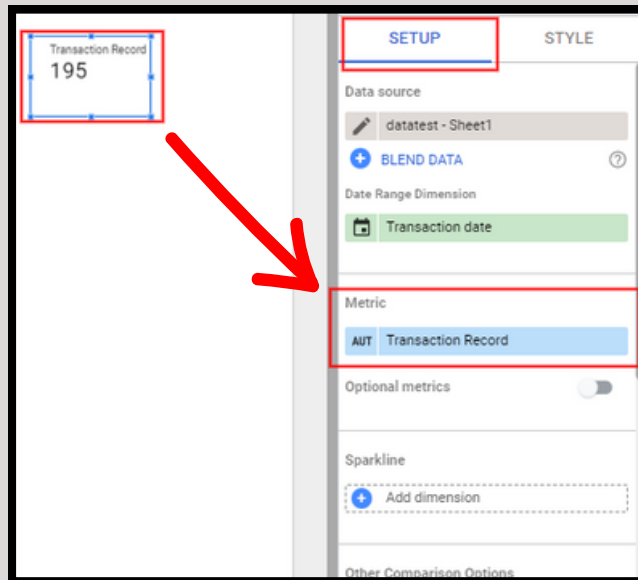


i) Scorecard

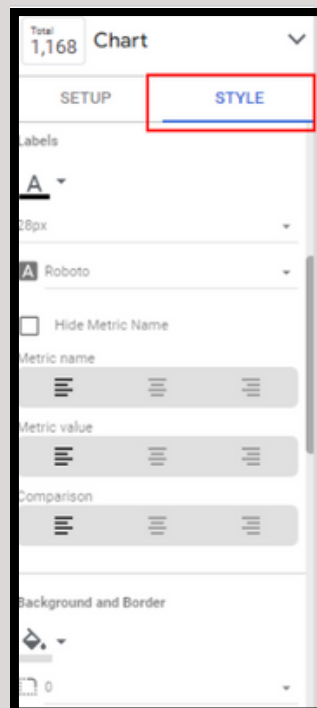
The scorecard will be the first thing added to the dashboard. The scorecard is used to view the "Transaction Record," "Weight Item," and "Amount Item".



There are two tabs on the right side of the screen: 'SETUP' and 'STYLE'. You may discover where this element receives its data from by going to the Data tab. Select Variable (Record count) in the 'Metric' section to determine the number of transactions. Then, click on the text 'CTD' to change the value of 'Record count' to 'Transaction Record'. Rep the previous stages for the scorecard 'Weight Item' and 'Amount Item'.

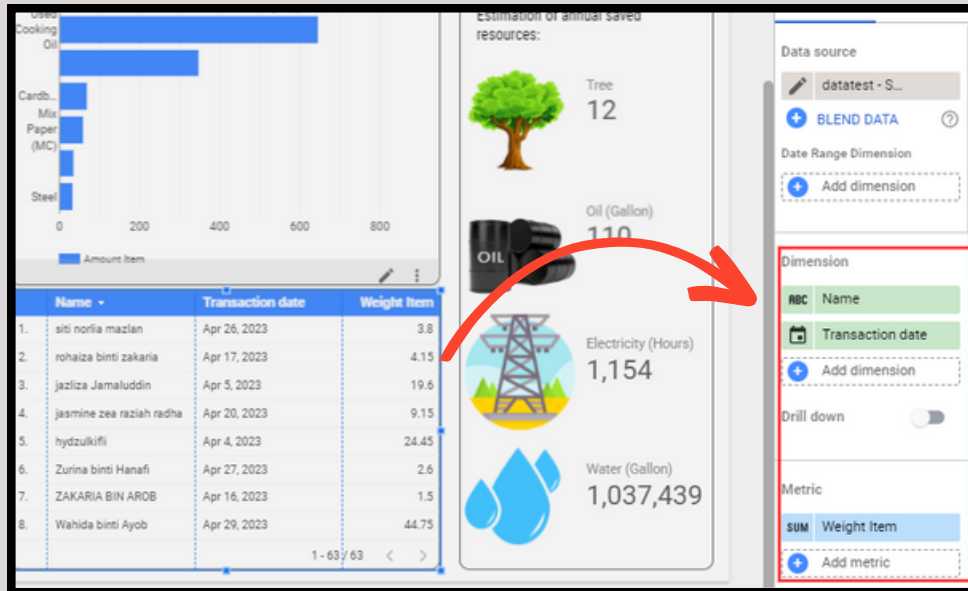


You can select your favourite format on the style option below. You can customise the colour, text, size, background, border, and other elements to your liking.



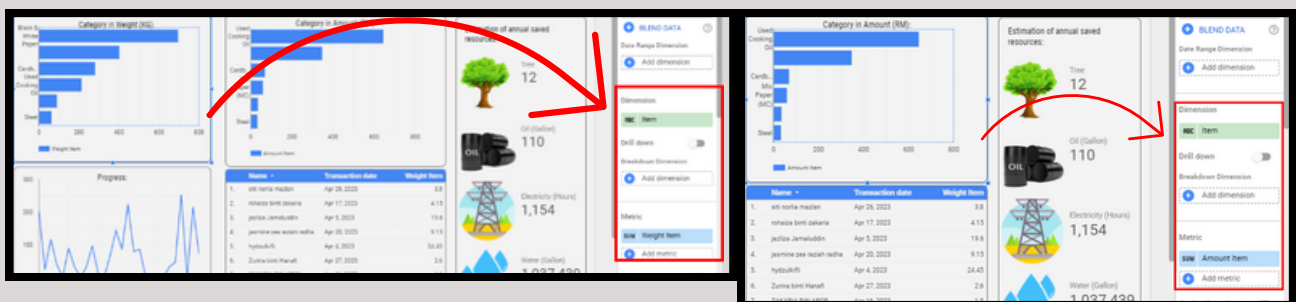
ii) Table

Select the table from the menu, then the variable that you wish to display in the table format, as seen below. To add a variable, select 'Add dimension' and input the variables 'Name,' 'Transaction date,' and add 'Weight Item' in the metric section.



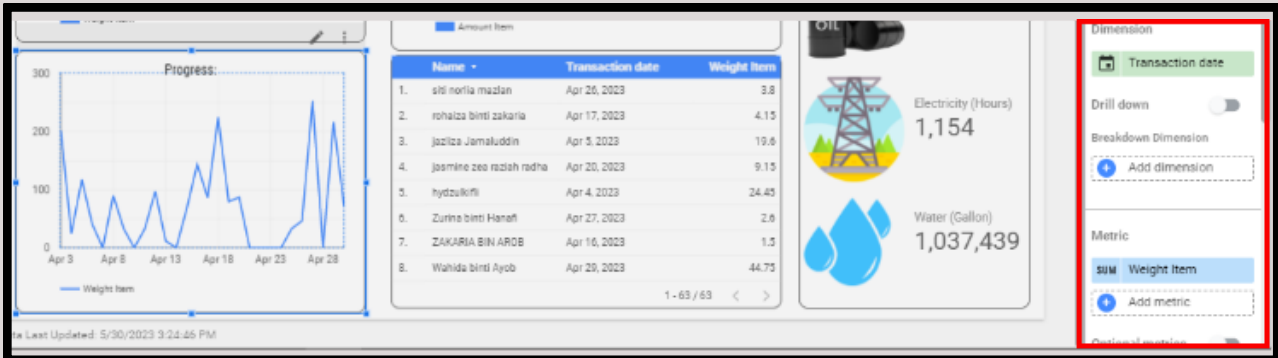
iii) Bar Chart

Select the bar chart from the menu, then place the chart anywhere you wish. To add a variable, select 'Add dimension' and input the variables 'Item', and add 'Weight Item' in the metric section. Repeat the same step to a new bar chart with variables 'Amount Item' as the metric.



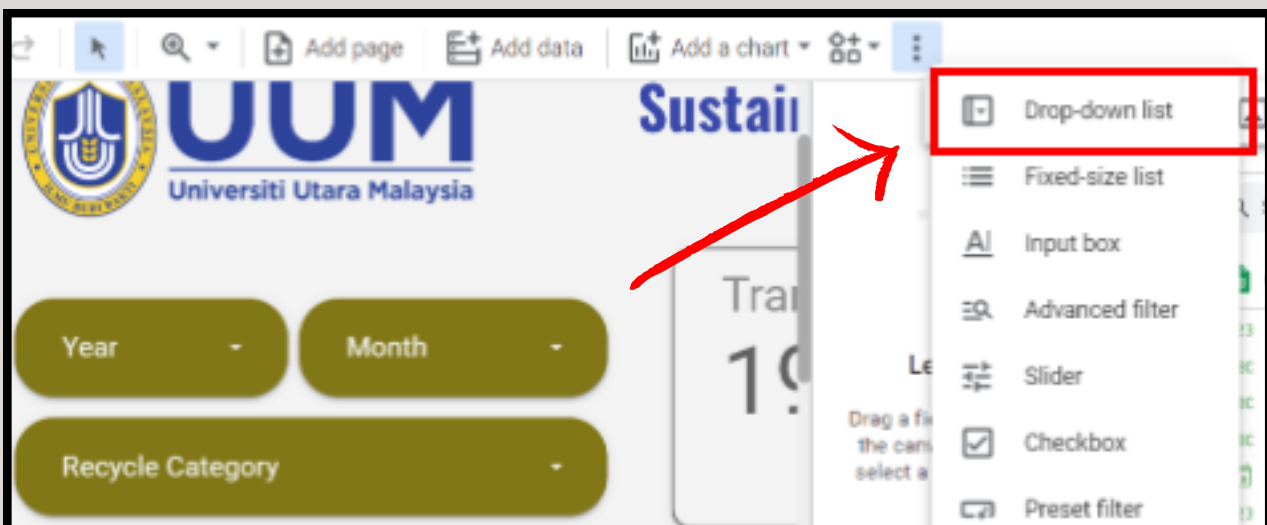
iv) Time-Series Chart

Select the time-series chart from the menu, then place the chart anywhere you wish. To add a variable, select 'Add dimension' and input the variable 'Transaction date', and add 'Weight Item' in the metric section.

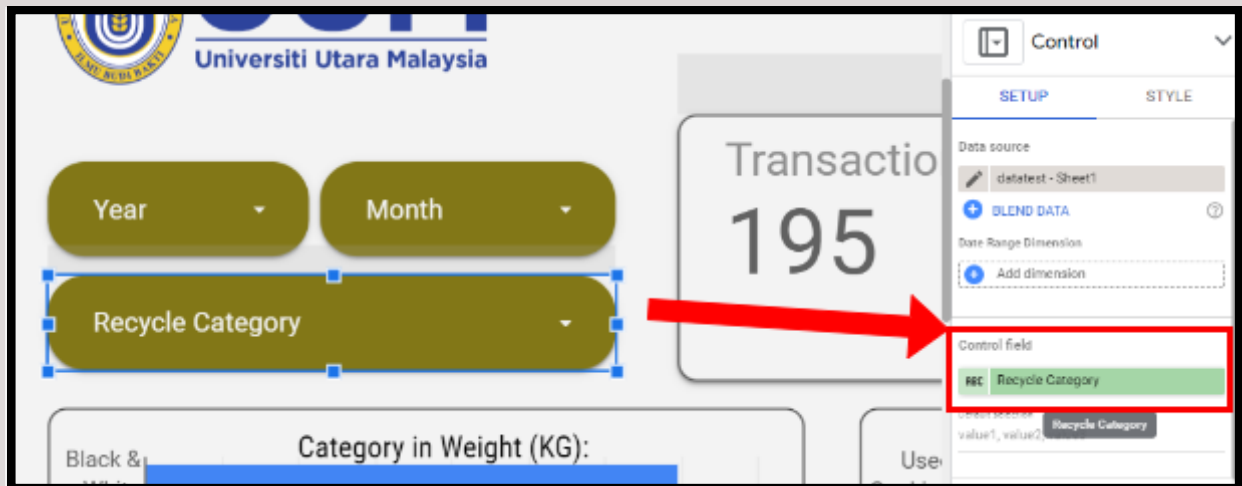


v) Drop Down List

In the 'Add a control' menu, select the drop-down list to add the following variables: Recycle Category, Year and month.



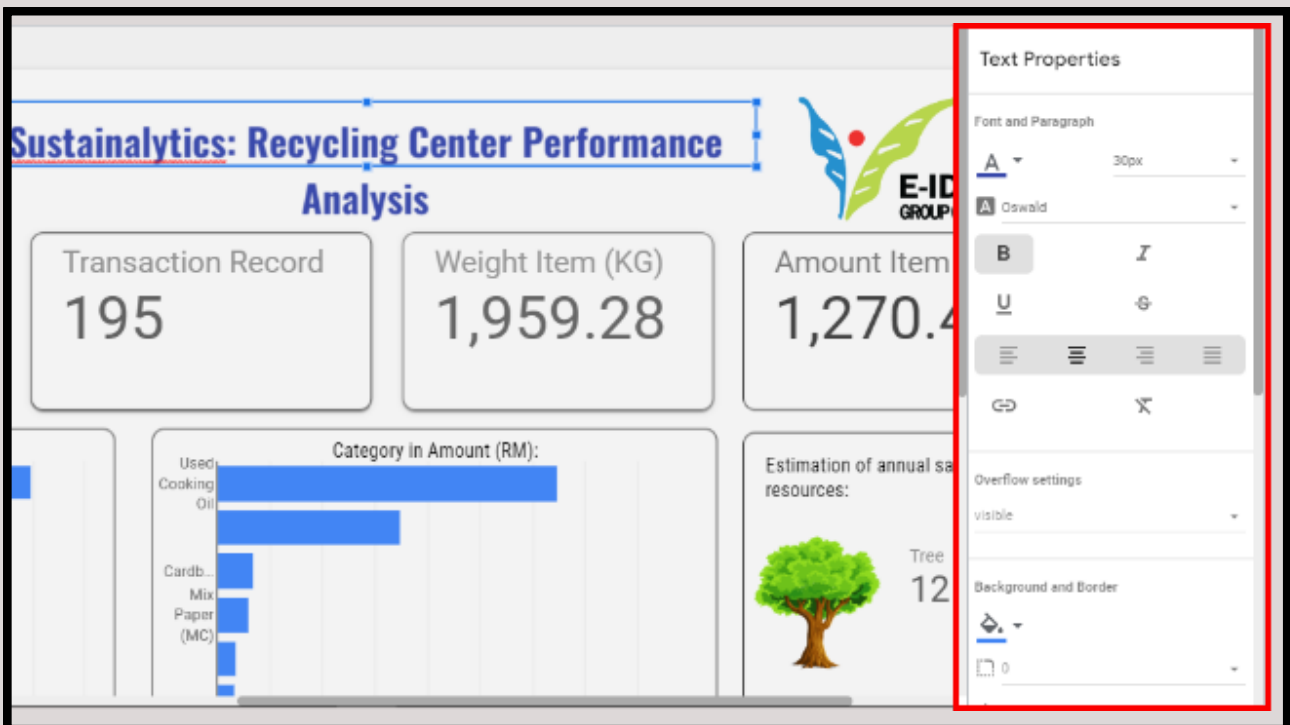
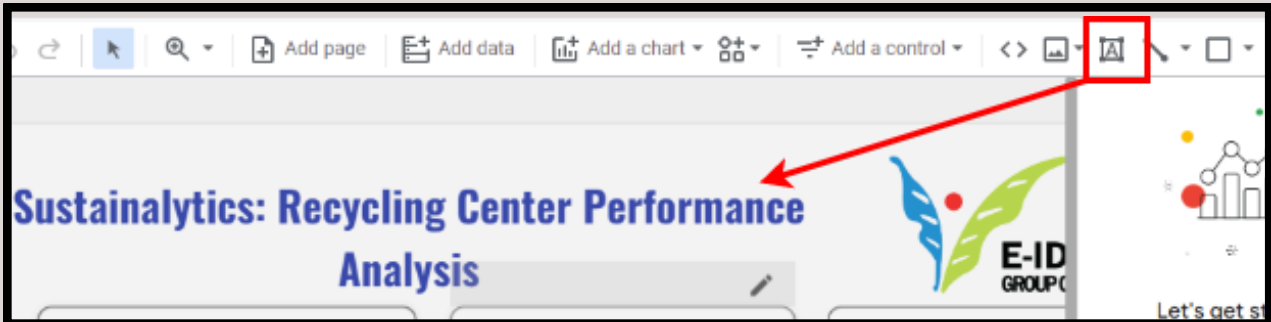
In the 'control field' section, make sure you select the right variable for each drop-down list element.



Step 5: Add text and pictures

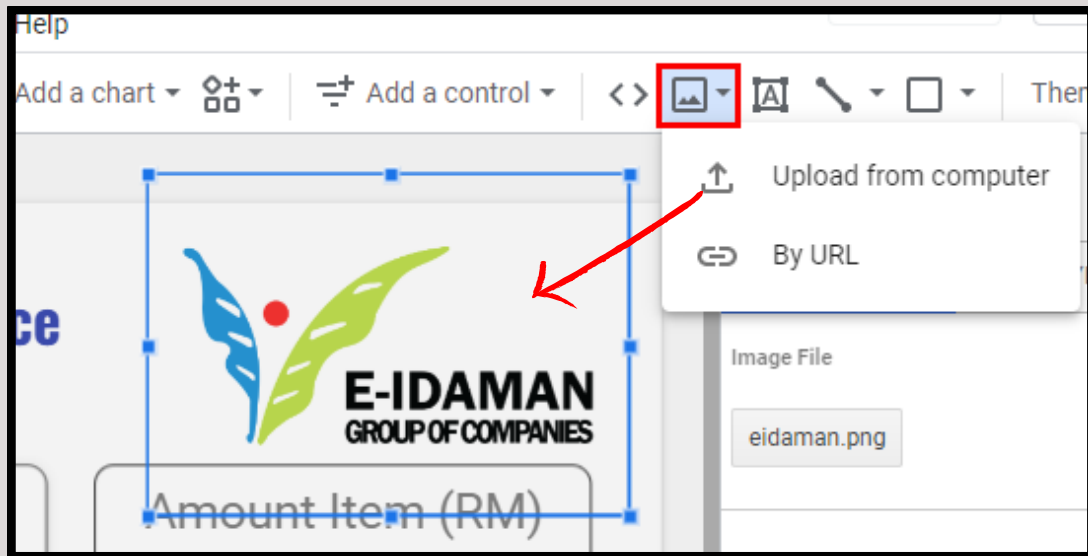
i) Text

To insert text, simply click on the menu with the text logo and drag it to the desired location. In the text properties, you can modify the text.

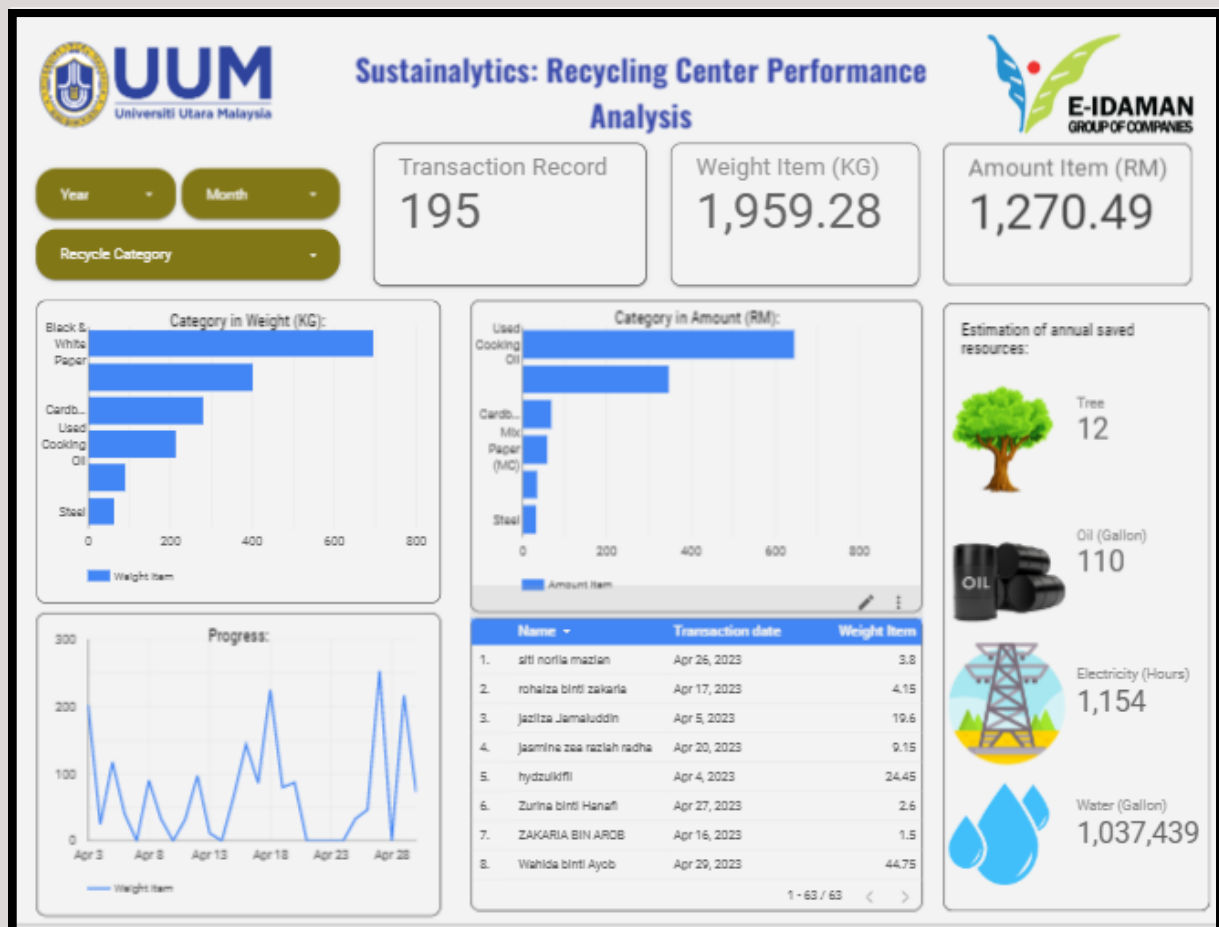


ii) Pictures

To enter an image, simply pick 'upload from computer' from the menu with the photo logo.

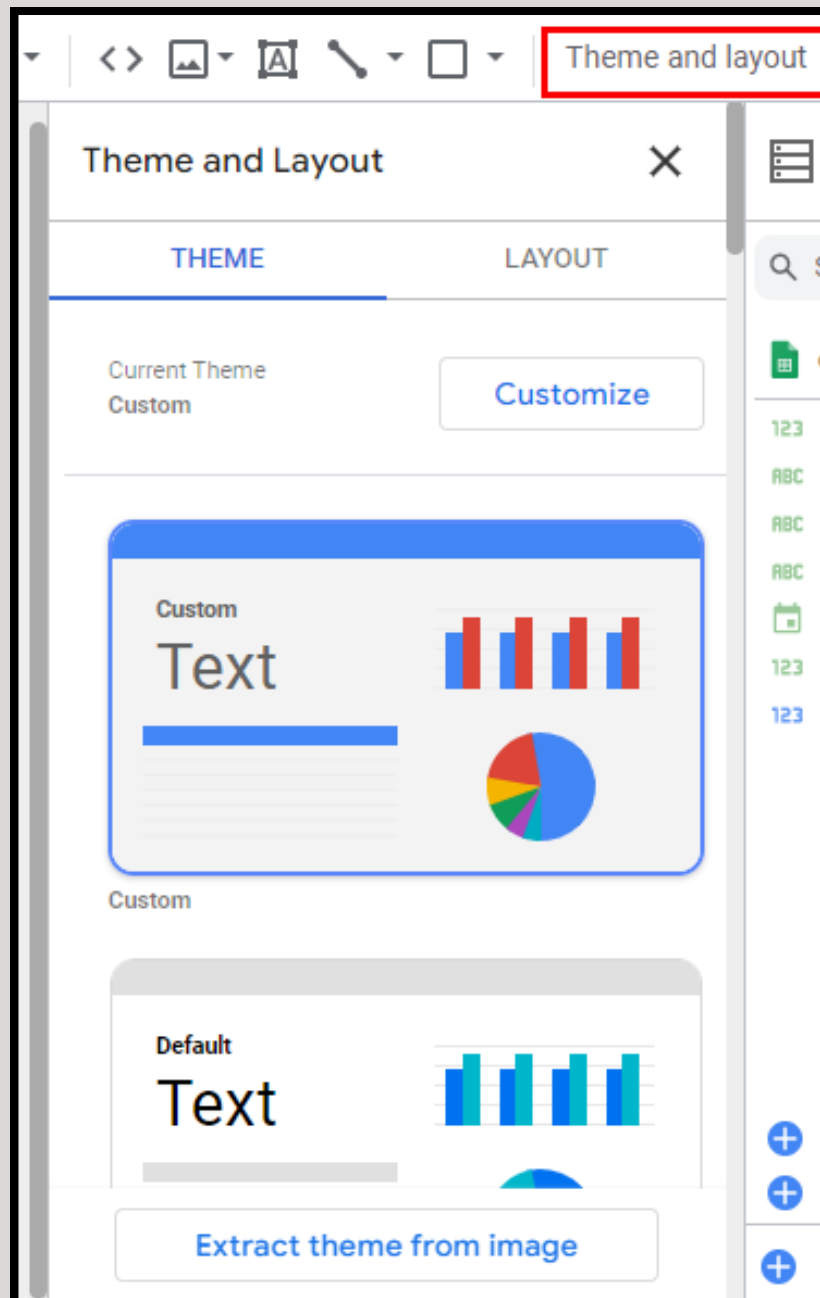


The main dashboard is complete.



Step 6: Styling

Once all items have been entered and the design of all dashboards has been completed, you can adjust the layout, color, and size of any piece to suit your tastes.



References

<https://isc.technet-21.org/en/resources/what-is-a-dashboard>

<https://www.youtube.com/watch?v=o3e1HsK8NeM>

<https://www.youtube.com/watch?v=zxepcpE1E78>