DATA VISUALIZATION TABLEAU

Contents

Task 1: Policies and Procedures when working with data

Firstly we most explain what GDPR/DPP is and how it relates to a Data/Data analyst.

GDPR by definition is General Data Protection Regulation; DDP by definition is Data Protection Policy, what does this mean in layman's terms.

GDPR deals with an all-inclusive data protection law for organisations that wish to operate within the EU or processing personal data of EU citizens. Most common areas covered in this data law which relate to organisations are:

- Lawfulness – How this data is used, fairness, transparent, clear communications on how the data is used, data subjects.
- Purpose limitation – Data to be used for its specified and not tasked for other processes incompatible with those processes.
- Data minimization- Data collection of personal data should only be limited to what is necessary for the task and not exceed those limitations.
- Accuracy: All personal data must be up-to-date where possible and accurate.
- Storage limitation – Personal data should not be kept for longer than necessary and designed purpose.
- Integrity and confidentiality- Personal data must be processed securely, protection from unauthorised access or unlawful processing, accidental loss, damage or destruction.
- Accountability – Data controllers must have GDPR compliance principles – which include policies and procedures in place.
- Lawful Processing of Data – Deals with the organizations policy for data lawfully:

    1. Consent
    2. Contract
    3. Legal obligation
    4. Vital interests
    5. Public interest
    6. Legitimate interests
    7. Roles and Responsibilities

Both are similar in certain areas but DDP deals more with protection of data within an organisation. It is a drawn up statement outlining a guide on how data is used, accessed and dealt with, all within the guidelines of the law and organisation.

Areas covered:

- Personal data – This would relate to identifiable information relating to an individual such as ID number, name, address, location data.
- Processing – Operations carried out on data such – collection, disposal, storage, retrieval, structuring etc.
- Data controller - The person/system who determines the purpose of processing personal data.
- Data processor – The person/system who processes the personal data for the controller.
- Data subject – The person whose data is being processed.
- Consent – Has it been given, has there been an agreement.

Data can be obtained and presented in a number of ways. Information can be obtained from private and public sources, depending on the source different levels of security need to be maintained as well as adhering to the policy of the organisation. Within the confines of the example being the Wealth of nations spread sheet a REQUEST was made to password lock the spread sheet as an extra level of security as well as adhering to the normal Practices of DPP/GDPR with and organisation. This extra level of protection and only allows those with granted access to see to spreadsheet as well as make any alterations.

Task 2: Excel "Wealth of nation's" Datasheet

The following is an account of steps taken to amend data sheet to requested format:

- Set a password to protect the workbook:

On the top of excel sheet the ribbon field is located; this refers to the tabs with title headings. Each tab within the ribbon has its own function.

In order to setup to a lock/password feature for a sheet within excel we need to click on the review tab within the ribbon and then select manage protection.

A menu will then pop up which will allow you to lock the spreadsheet via a password as well as setup the edit/view options that can/can't be made on the spreadsheet.
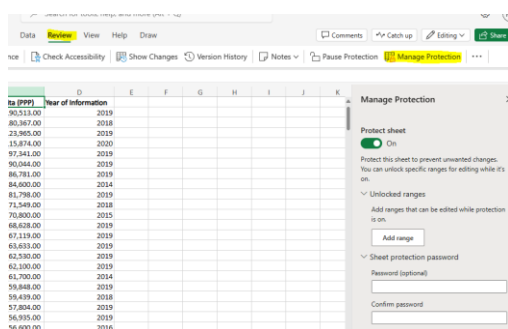
- Highlight column C and change the data to display in British Pound symbol:

Right click on C column, select Number format on the drop down menu. Select currency type as well as the option to change the decimal point count.
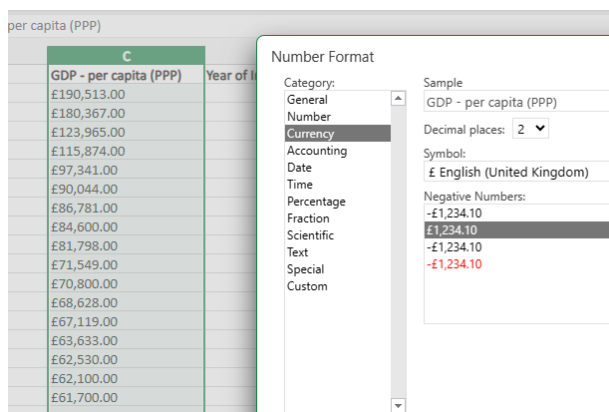

- Turn the GDP sheet into a table:

Highlight cells – Select Home ribbon – Click on format as table icon; there are a number of colour options and formats dependent on the look you're going for.
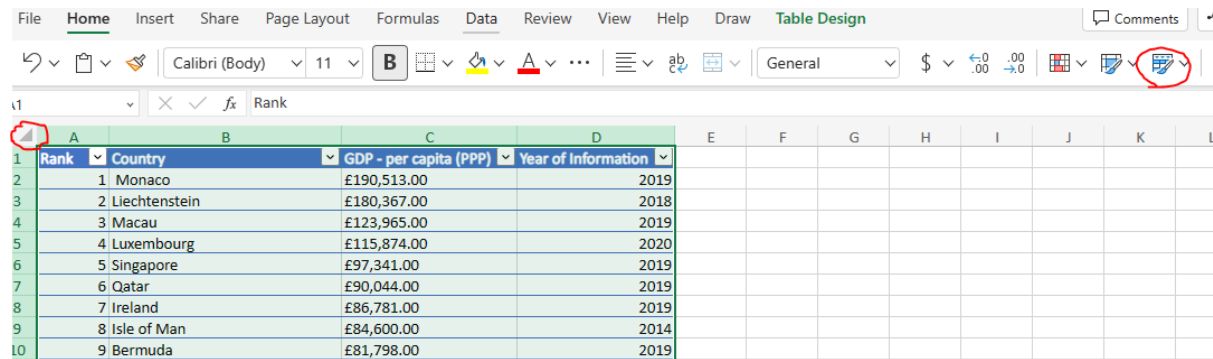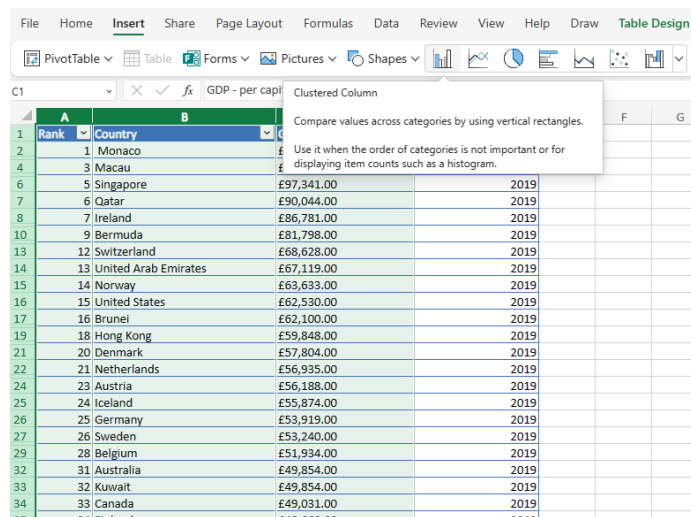

- Next create achart that will only display the following data 'Rank, Countryand GDP -per capita (PPP). The chart can be anything as longas it issuitable
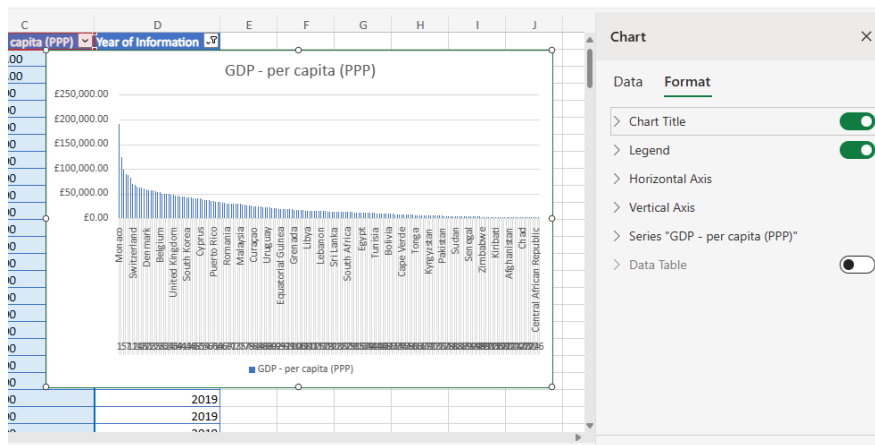
Click on arrow key next Year of information to filter Years.
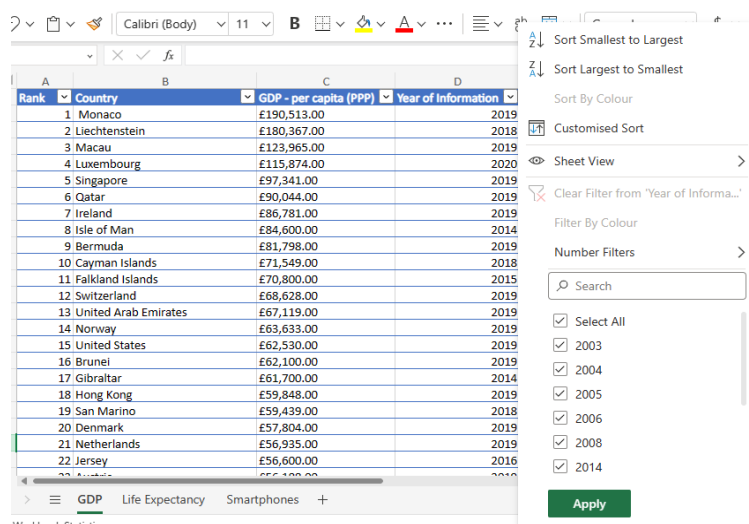
Highlight rows A-C, selct Insert Tab, select chart type.

Double click on chart area, popup chart settings allow changes chart and additional heading details.


Move a chart to another worksheet.

Click anywhere in the chart. This displays the Chart Tools option on the ribbon.

Under Chart Tools, on the Design tab, in the Location group, click Move Chart.

Select GDP column and click on the filter icon in c coloum , a drop down menu will appear, allowing you to sort Top 20 (Z/A Sort largest to Smallest)
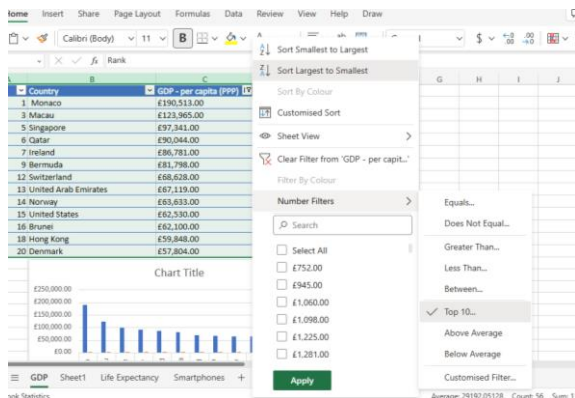
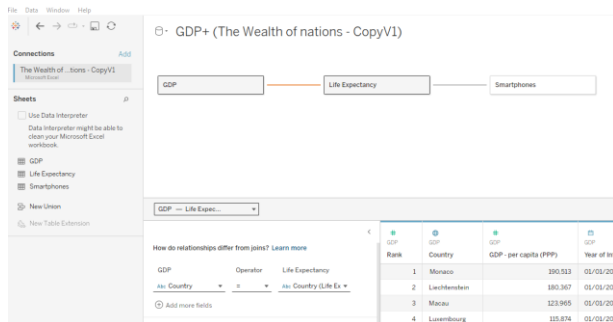Highlight and drag area you wish to colour in , once area is selected right click fill in with colour.
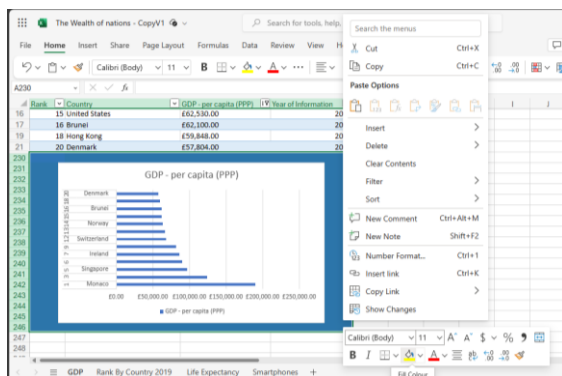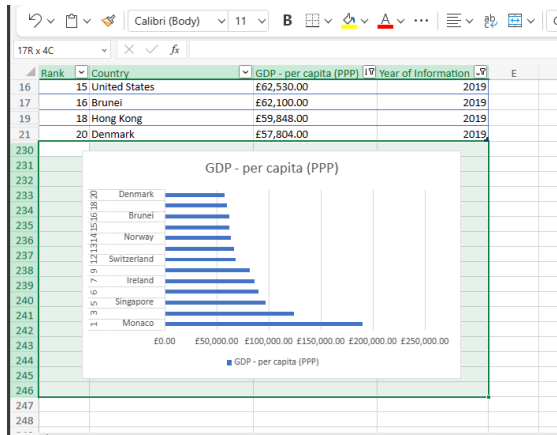
Task 3: Tableau mapping

In order to start a tableau build we need to the import data, if there are multi sources of data on a spreadsheet for this example we need to create a relation.

A relationship is a common link between the sheets; in this case it is country.

Once the relationship is established we can start to play around with our tableau build. Note: Make sure the Data types are correct.
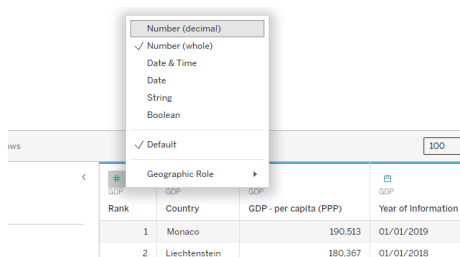

1: Creating

From our Wealth of nations spreadsheet tableau has created three tables located on the far left, all the data pertaining to the spreadsheet will be shown here, we can now start the build.
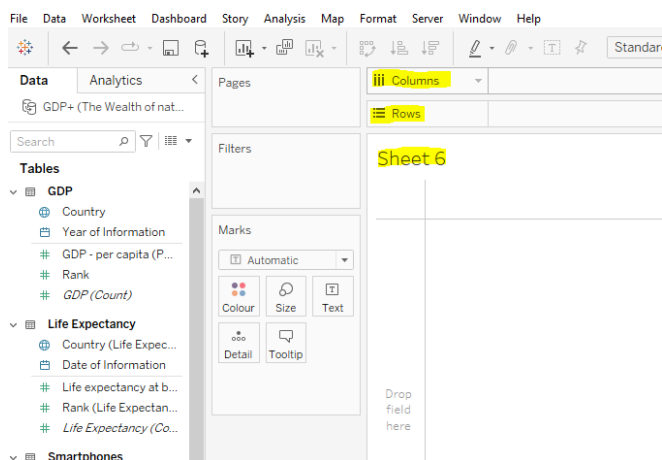
Depending on the build there are three areas you can drag your table data types into; these would be Columns, rows and the sheet itself.
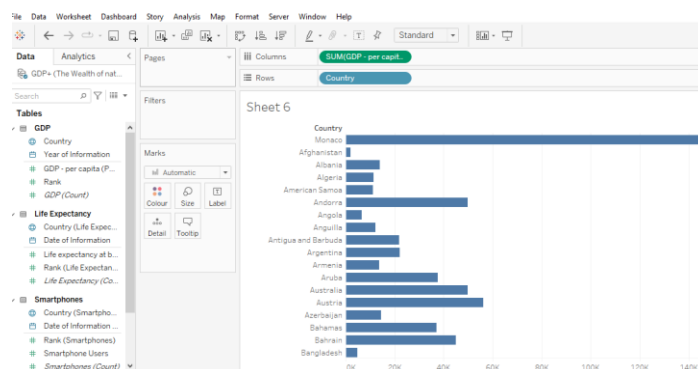
Note:

- Dragging any data type into the sheet is usually reserved for the "Country" data type as this will generate a map.
- Tableau is already populated with global data, so when this data type is dragged into this field it will generate a global map with points showing, other data types will not do so.
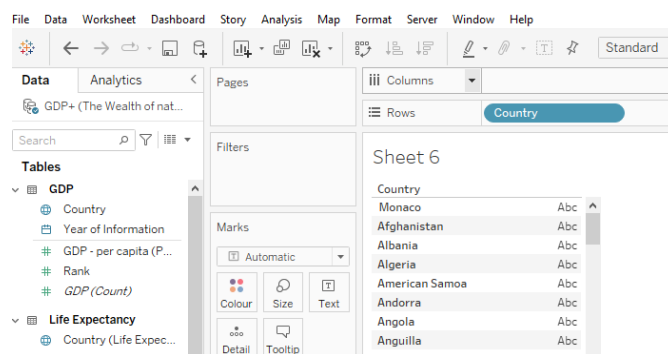
By dragging the country data type to the rows column the sheet is populated with on the Y axis, if placed in the columns column it with show on x axis, listing the countries from the spreadsheet we imported.

Note:

- Blue Pills symbolize dimensions. When you drag a dimension to the Rows or Columns, it appears as a blue pill.
- The green pill and the axis help you to see that it's a continuous field.
- Dimensions contain qualitative values (such as names, dates, or geographical data). You can use dimensions to categorize, segment, and reveal the details in your data.

By dragging the GDP data type to the columns column the sheet is populated with on the X axis, if placed in the rows column it with show on Y axis, listing the countries captia from the spreadsheet.

Note: In rows column we can see the GDP pill has SUM in text, Tableau and excel use the same mechanics when dealing with numeric data.

By clicking on the arrow within the pill we can list off options available to us, scroll down to sum and select average.
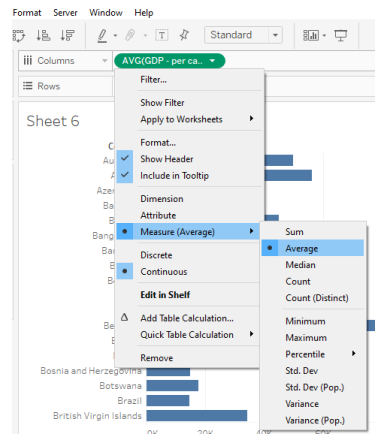

2: Top 20

By dragging the country data type from GDP into the filters fields you will have a pop appear. Select the top tab, this will allow us to filter the countries by the desired number. In this case we need the top 20 countries GDP per capita. Once selected, click ok or apply.
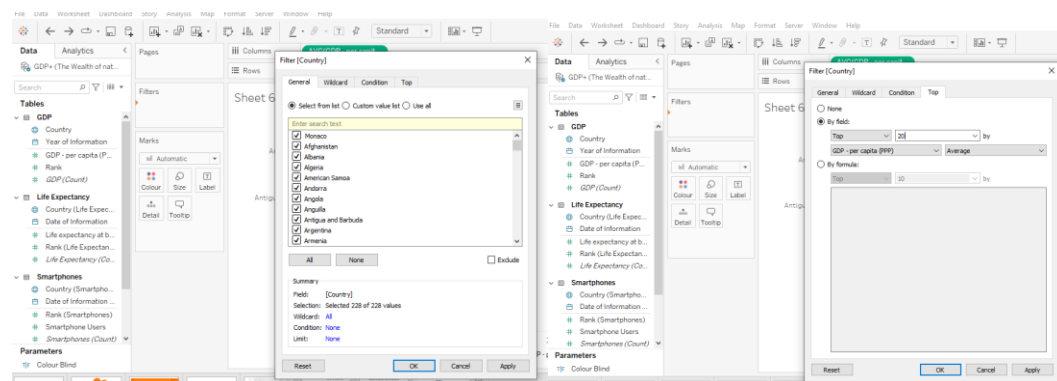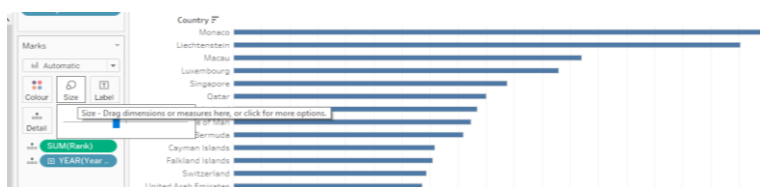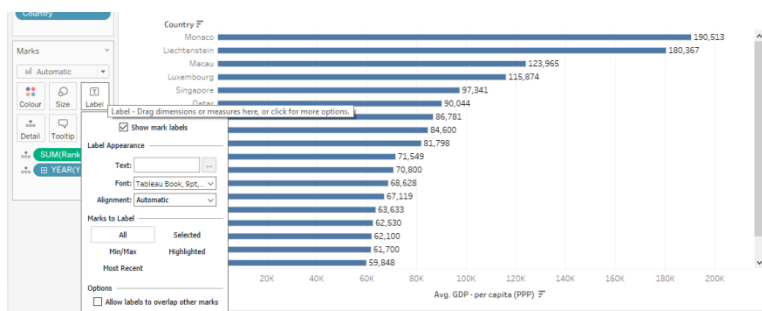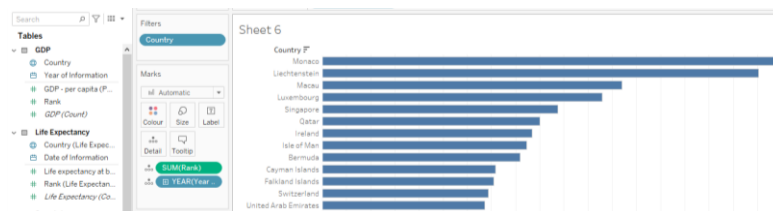
3: Details

We can play around with the look and add detail to the chart directly on the sheet or using the marks area. The marks area allows colour, size, text detail, tooltip and details to be added to your Graphic.
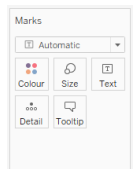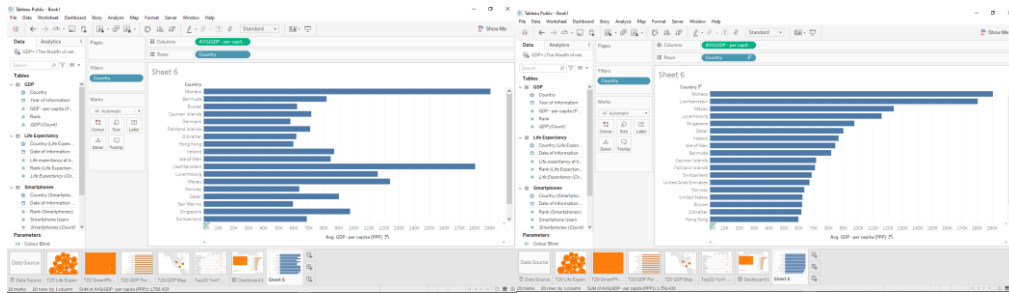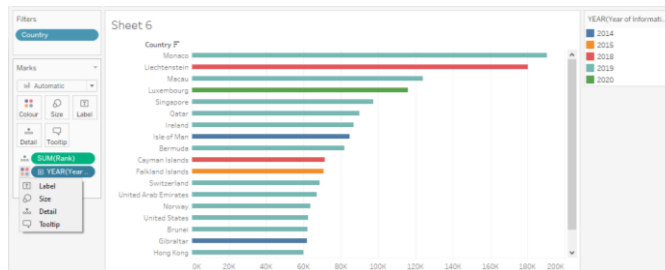

In order to do this you must drag the data type onto the marks field icon.

Examples:

It is also possible to click on the icon next to the data type in marks an select your prefered option.

4: Colour Blind

To create a colour-blind option create a new parameter called colour-blind change the data type to a Boolean and click the perimeter option to choose true or false. Drag the perimeter to the detail shelf. Click on the dots next to the blind and choose click on the pallet and choose the sign pallet. This will be our non-blind pallet. Click the blind to click on the pallet from my list pallets we can choose Click on the pallet click and we can swap between a blind and a non-blind colour palette.

Chart complete:
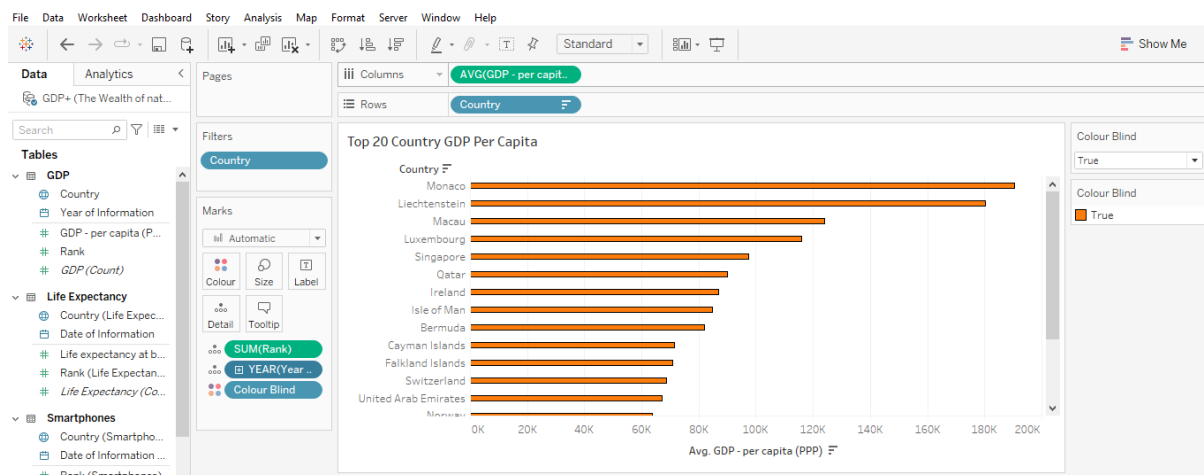
These basic steps are applied to all tableau charts. Chart design can vary depending on the information you wish to convey for clients/organisations requests.
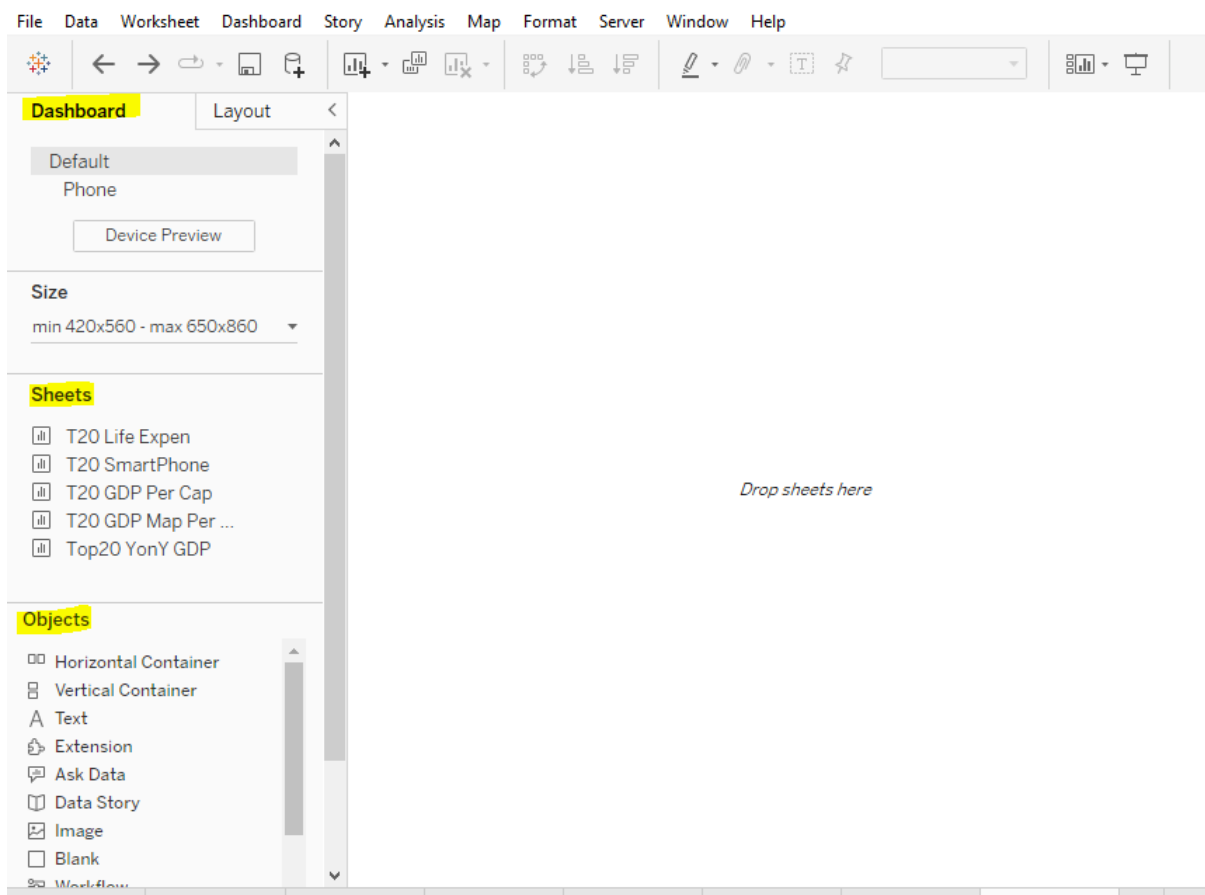
Dash board:

The dashboard is the area of Tableau where all your charts can be formatted into one area and story to be published as a report.

At the bottom of the tableau the highlighted icon will open the dashboard for charts to be populated.
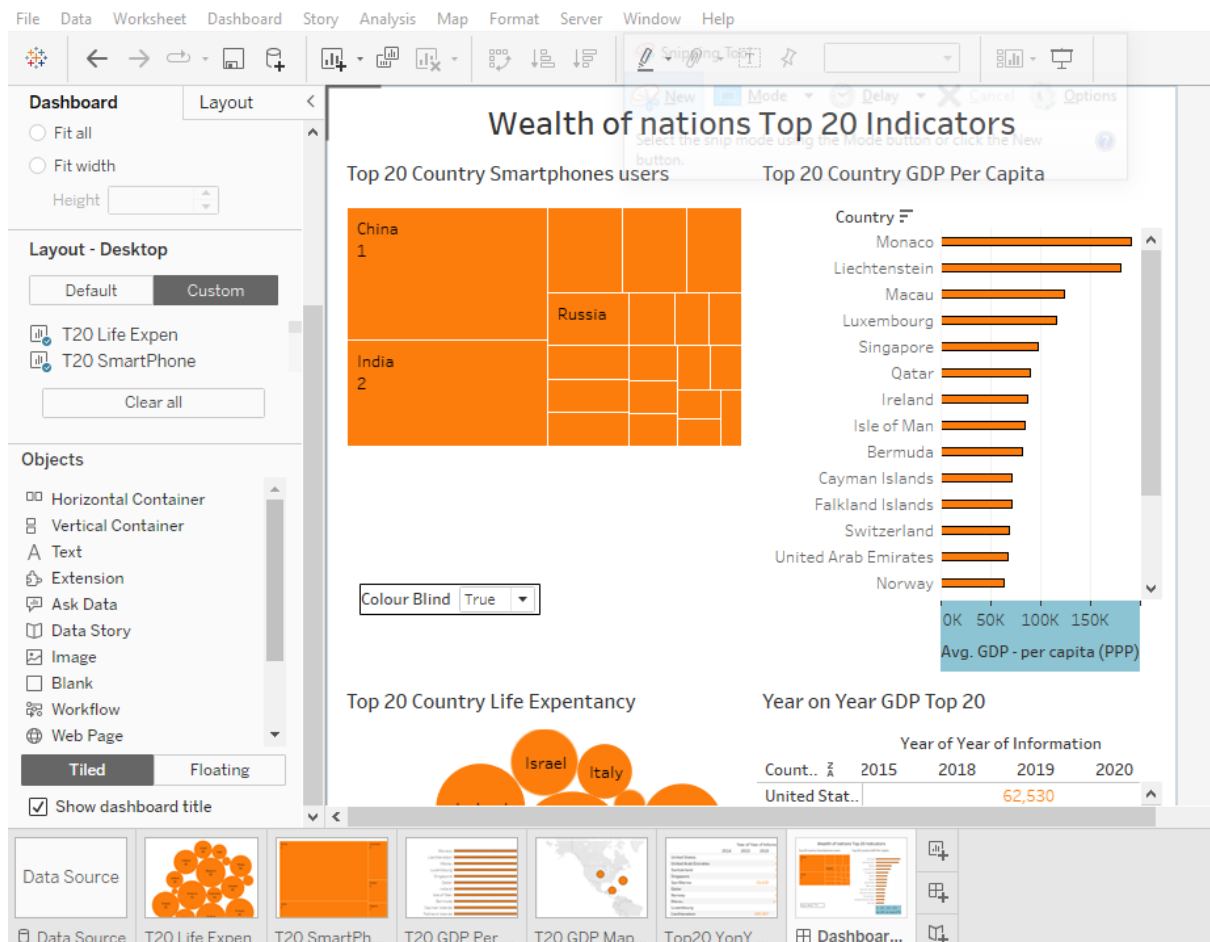

Once this area is accessed you are presented with the below page:

In the sheets area all our titles charts manufactured previously to this step will be present.

Simply drag those charts you wish to convey in your story to the drop area opposite.

Once you have added your charts you can select the objects field to touch up the dashboard area with elements of your choice if needed.