Handbook for Bootcamp. JustIT Learning outcome. Main features on Excel and (Dashboard)

Data Visualizations

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Contents

Dashboard Using Excel and Tableau

Overview:

In order to analyse data in Excel I chose the file of following file. The raw data in excel file has no meaning. In order to convert raw data, we have to convert into meaningful data.
I'm going to draw Dashboard and focus on the major KPI's

First Task

Policies and Procedures

A Data Protection Policy is **a statement that sets out how your organisation protects personal data**. It is a set of principles, rules and guidelines that informs how you will ensure ongoing compliance with data protection law.

The data remains confidential and should not be given to any unauthorised, user. Unless stated to do so.

Following rules must be adhered while using data and liabilities of Data analyst.

- Lawfulness, fairness and transparency.
- Purpose limitation.
- Data minimisation.
- Accuracy.
- Storage limitation.
- Integrity and confidentiality (security)
- Accountability.

These rules are set by organization/government in order to protect the confidentially of data. Data breach is very serious offence. Different data has different piece of information.

Second Task

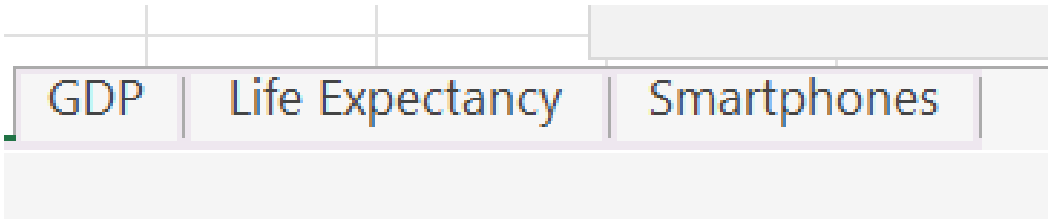
The data can be retrieved from the following link.

S://JUSTIT831.SHAREPOINT.COM/:X:/S/DATAANALYTICSPROGRAMMENEWSTANDARDS/EVK1DSCFWVZMPVJZG9QAQK8B1NXX7HYR0KTGFBZJAUF94G?E=CR1LFE

Steps involved (Storytelling):

The data was not clean, I have to define the data types of each data and manipulate in the meaning full format.

This Excel file (the wealth of Nations) has three different sheets.



These three different sheets have different types of information with different columns.

One common column among these sheets is **Country.**

FIGURE 1
THIS FIGURE (GDP WORKSHEET) HAS 4 DIFFERENT COLUMNS, WHICH CONTAINS ALL THE RELEVANT INFORMATION. THIS SHEET NAMED AS GDP.

Throughout the working we will be focusing on Country and GDP (Column), as we need to arrange the data according to it.

This cleaning I have done in Excel file. I cleaned it and describe the data format types. I analyse different charts to ascertain the different charts and represent the repot

The following tasks I adhered in order to complete the charts/graphs

GDP Tasks :

1. Set a password to protect the workbook
2. Highlight column C and change the data to display in British Pound symbol

3. Turn the GDP sheet into a table. 4. Filter the table to display only the information for 2019

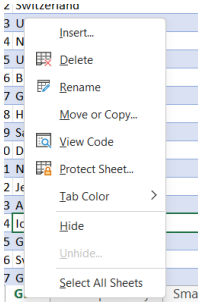
5. Next create a chart that will only display the following data ‘Rank, Country and GDP - per capita (PPP). The chart can be anything as long as it is suitable.

6. Using your creative skills edit the chart a. Add a title b. Add X and Y axis labels c. Make the chart visually pleasing

7. Move the chart to a new sheet tab and label with a suitable name

8. Create a sort for the top 20 highest ranking counties

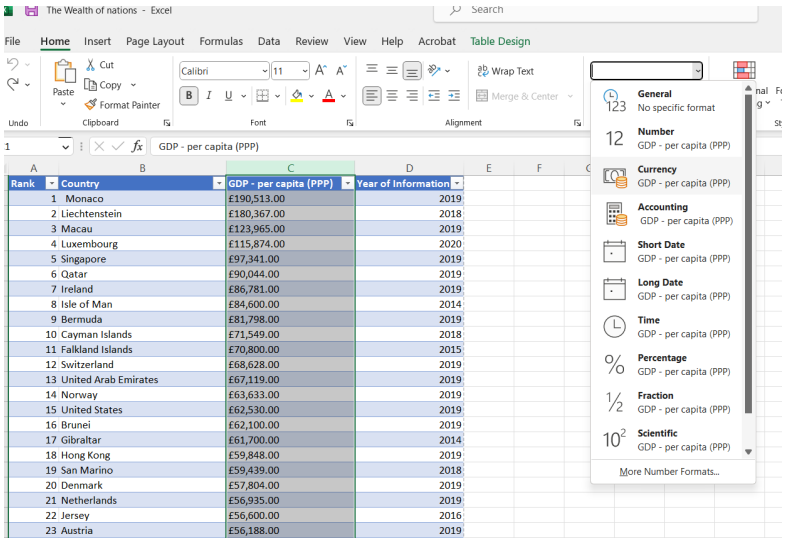
9. Next create a new Bar chart to display the 20 highest ranking countries from your sort and then move the chart to be underneath the table, as shown below.



Protect the sheet :

This file is protected by right click on the worksheet and select the Protect worksheet. Choose a password. This file has been protected from unauthorised user.

Change to $ sign



Rank	Country	GDP - per capita (PPP)	Year of Information
1	Monaco	£190,513.00	2019
2	Liechtenstein	£180,367.00	2018
3	Macau	£123,965.00	2019
4	Luxembourg	£115,874.00	2020
5	Singapore	£97,341.00	2019
6	Qatar	£90,044.00	2019
7	Ireland	£86,781.00	2019
8	Isle of Man	£84,600.00	2014
9	Bermuda	£81,798.00	2019
10	Cayman Islands	£71,549.00	2018
11	Falkland Islands	£70,800.00	2015
12	Switzerland	£68,628.00	2019
13	United Arab Emirates	£67,119.00	2019
14	Norway	£63,633.00	2019
15	United States	£62,530.00	2019
16	Brunei	£62,100.00	2019
17	Gibraltar	£61,700.00	2014
18	Hong Kong	£59,848.00	2019
19	San Marino	£59,439.00	2018
20	Denmark	£57,804.00	2019
21	Netherlands	£56,935.00	2019
22	Jersey	£56,600.00	2016
23	Austria	£56,188.00	2019

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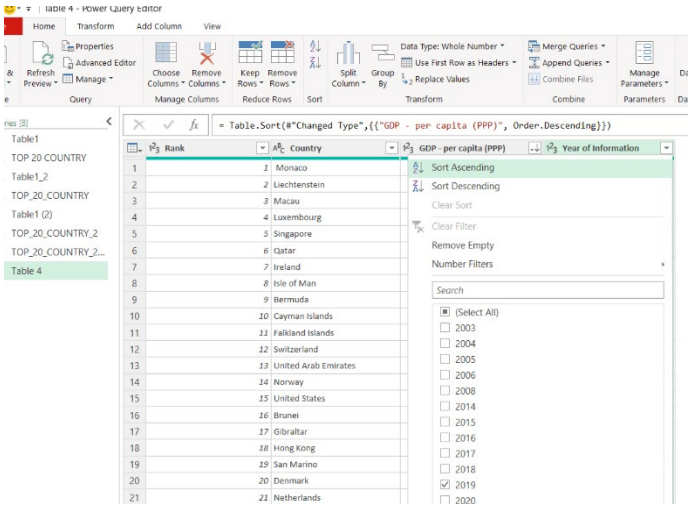
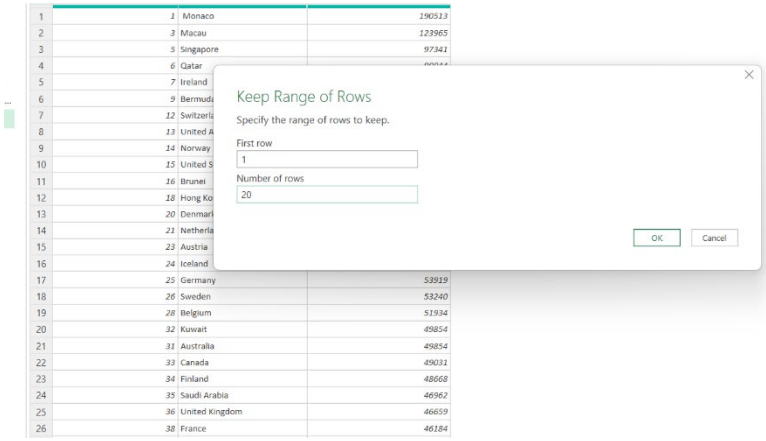
After select Column C, the $ sign changed to £ as per requirement.

Filter the data

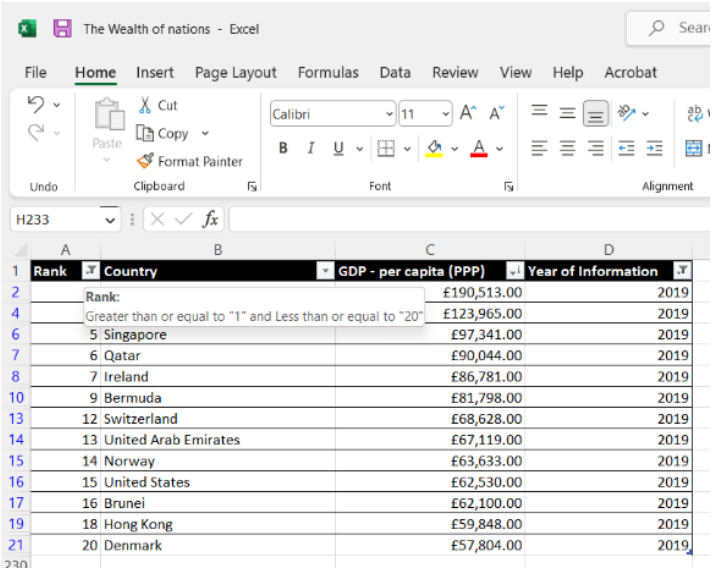


This step shows that data has transformed into table and filter the year only in 2019.

Top 20 Countries



This step shows that top 20 countries has been selected for visualasations. I selected to top 20 rows. After filtering foom top 20 countries . Removed year column as well. Countries number 2 and 4 are missing from columns. Only top 18 countries are included in the report.



Rank	Country	GDP - per capita (PPP)	Year of Information
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		£123,965.00	2019
5	Singapore	£97,341.00	2019
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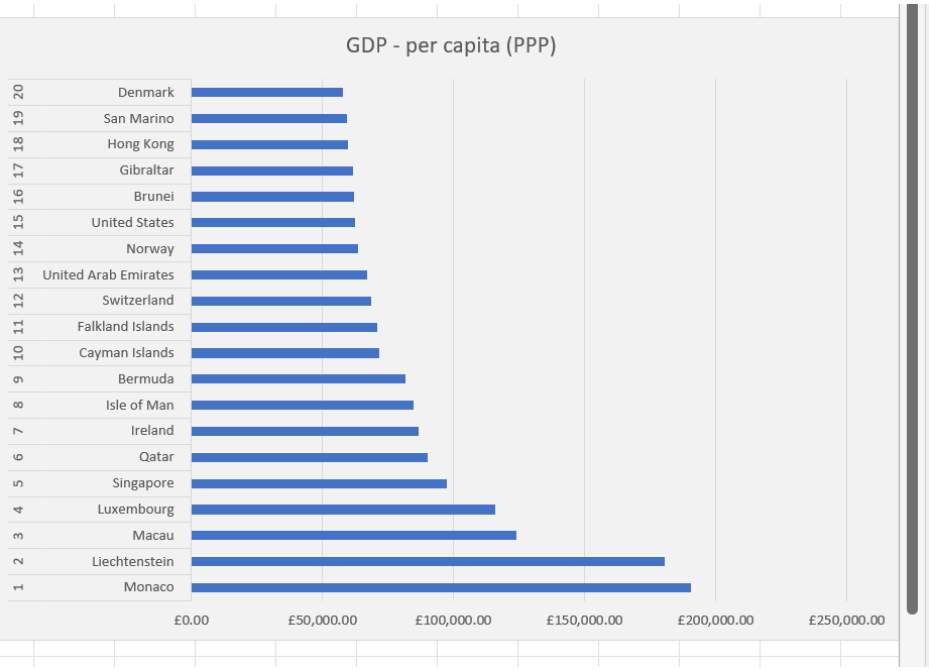
16	Brunei	£62,100.00	2019
18	Hong Kong	£59,848.00	2019
20	Denmark	£57,804.00	2019

Top 20 countries has been selected for display. Please note that country number 2 are 4 are missing from table/column. There are different methods to filter the top 20 countries . it can done on power query editor or can be done in Excel after run the power query editor. Either we can filter from the rank and also select from the top 20 countries.

Top 20 countries and their chart.

Rank	Country	GDP - per capita (PPP)
1	Monaco	£190,513.00
2	Liechtenstein	180367
3	Macau	123965
4	Luxembourg	115874
5	Singapore	97341
6	Qatar	90044
7	Ireland	86781
8	Isle of Man	84600
9	Bermuda	81798
10	Cayman Islands	71549
11	Falkland Islands	70800
12	Switzerland	68628
13	United Arab Emirates	67119
14	Norway	63633
15	United States	62530
16	Brunei	62100
17	Gibraltar	61700
18	Hong Kong	59848
19	San Marino	59439
20	Denmark	57804

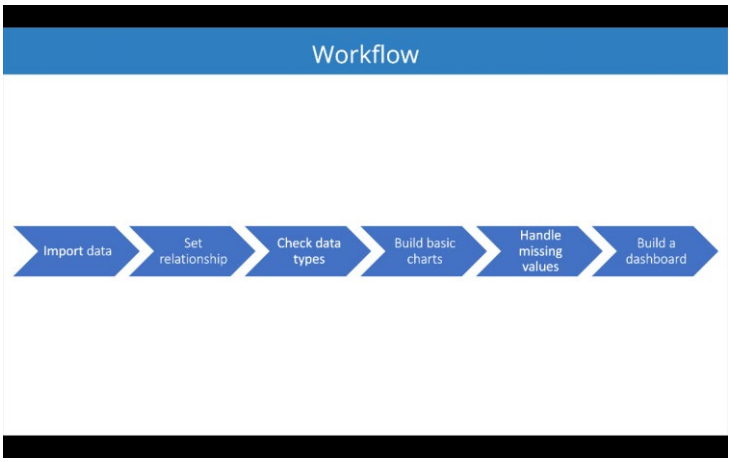


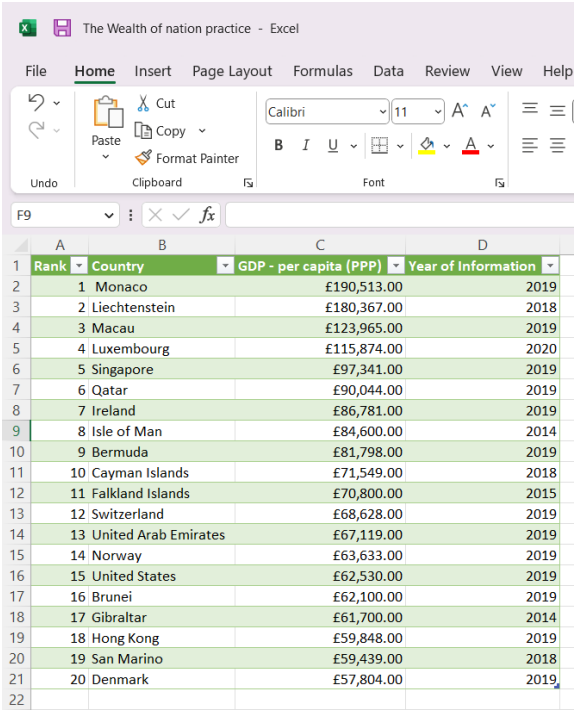
GRAPH OF FIRST 20 COUNTRIES . DATA VISULAZATONS IN EXCEL.

Third Task :

Tableau

I followed the following workflow that we used in the workshop





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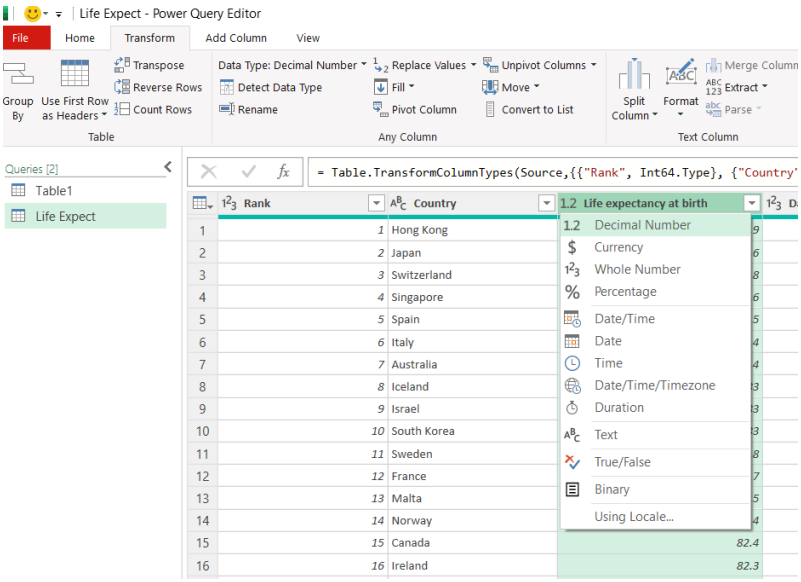
20	Denmark	£57,804.00	2019

FIGURE 2 THIS SCREEN SHOT REPRESENTS THE TOP 20 COUNTRIES AS PER CLIENT REQUIREMENTS. ARRANGING IN ASCENDING ORDER.



	Rank	Country	Life expectancy at birth
1	1	Hong Kong	
2	2	Japan	
3	3	Switzerland	
4	4	Singapore	
5	5	Spain	
6	6	Italy	
7	7	Australia	
8	8	Iceland	
9	9	Israel	
10	10	South Korea	
11	11	Sweden	
12	12	France	
13	13	Malta	
14	14	Norway	
15	15	Canada	82.4
16	16	Ireland	82.3

FIGURE 3

Changing Data types is an important factor used in making visualisations in order to eliminate any data rules violation, which could have impact on the chart we create later on.

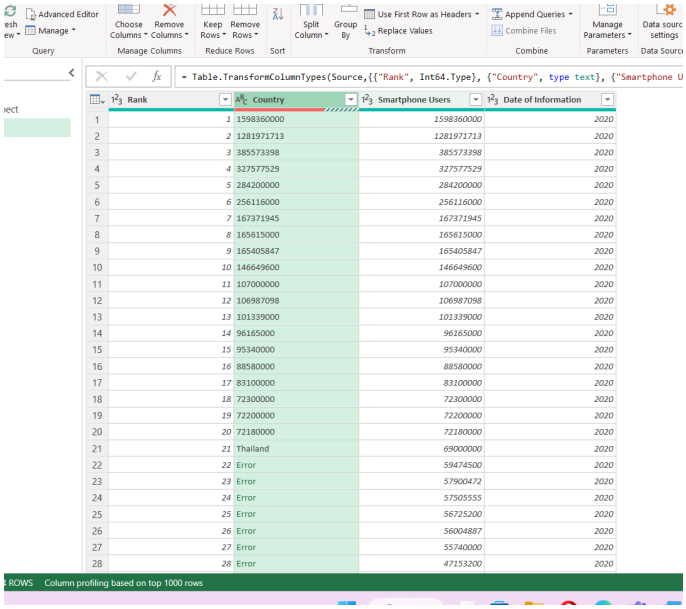


FIGURE 4

Dealing with Null values , we can eliminate in Power query editor so that on later stages there will no stone unturned to make data more accurate.

After importing all the data from Excel into Tabluae to make it more meaningful.

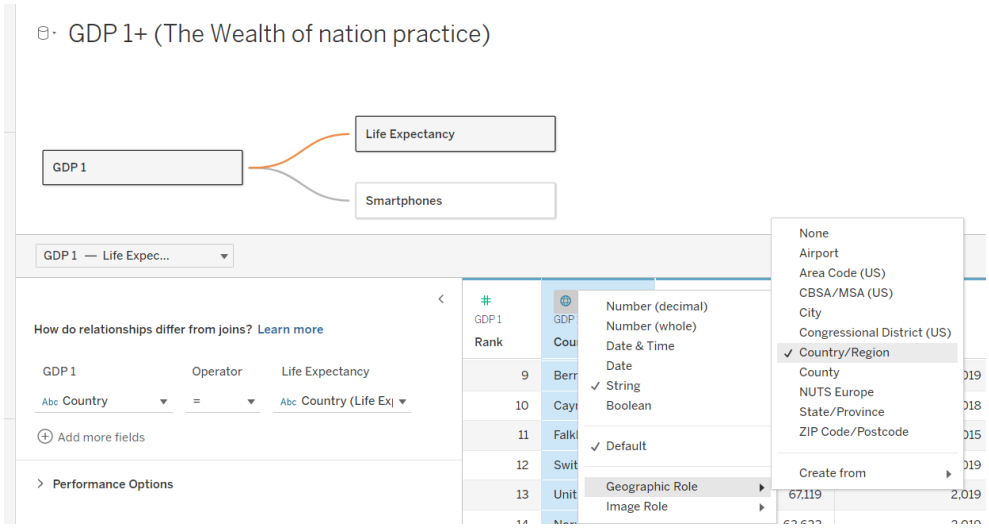


FIGURE 5

This screen shot shown the Data type of Country as shown in Country/Region. This also shows data has been cleaned. Moreover, for further data validation we can follow this screen shot step in Tableau as well.

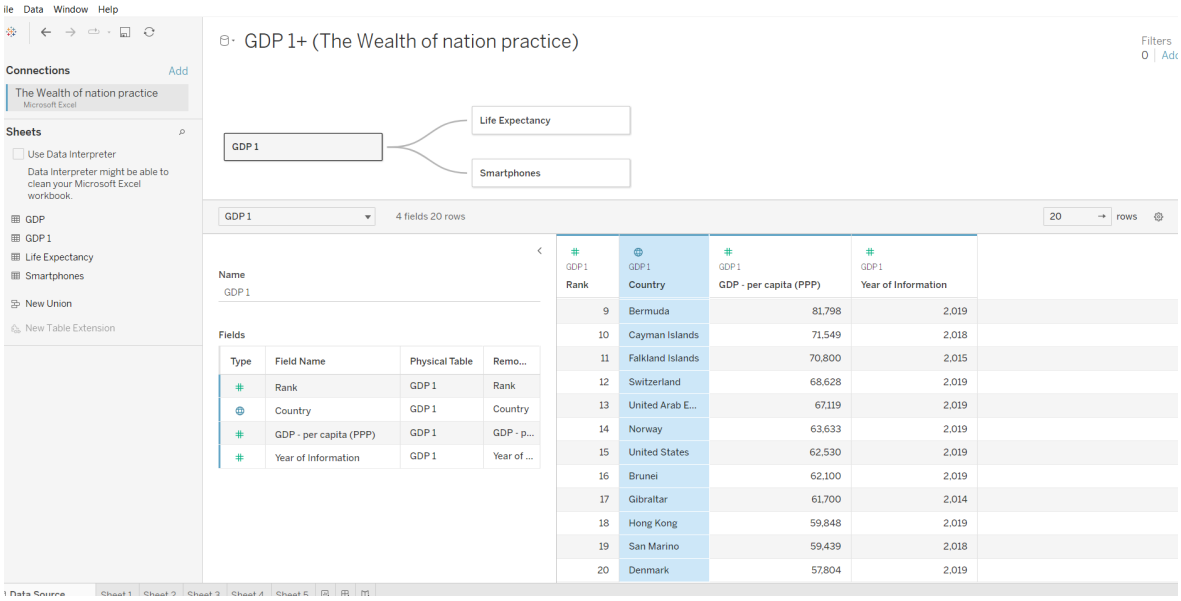
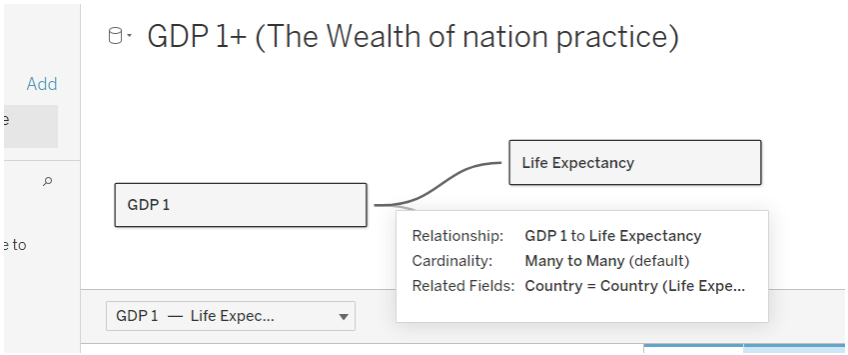


FIGURE 6

THIS SCREEN SHOT HAS TOP 20 COUNTRIES AS PER CLIENT REQUIREMENTS. THE TOP 20 COUNTIES SHOWN IN THE CHART OF TABLEAU. ALL THE RELATIONSHIPS HAS BEEN SET AND THE COMMON COLUMN IS COUNTRY.



This screen shot represents the relationship among GDP, Life Expectancy and Smartphones. Making relationship with all the tables in one file is extremely important to build visualise

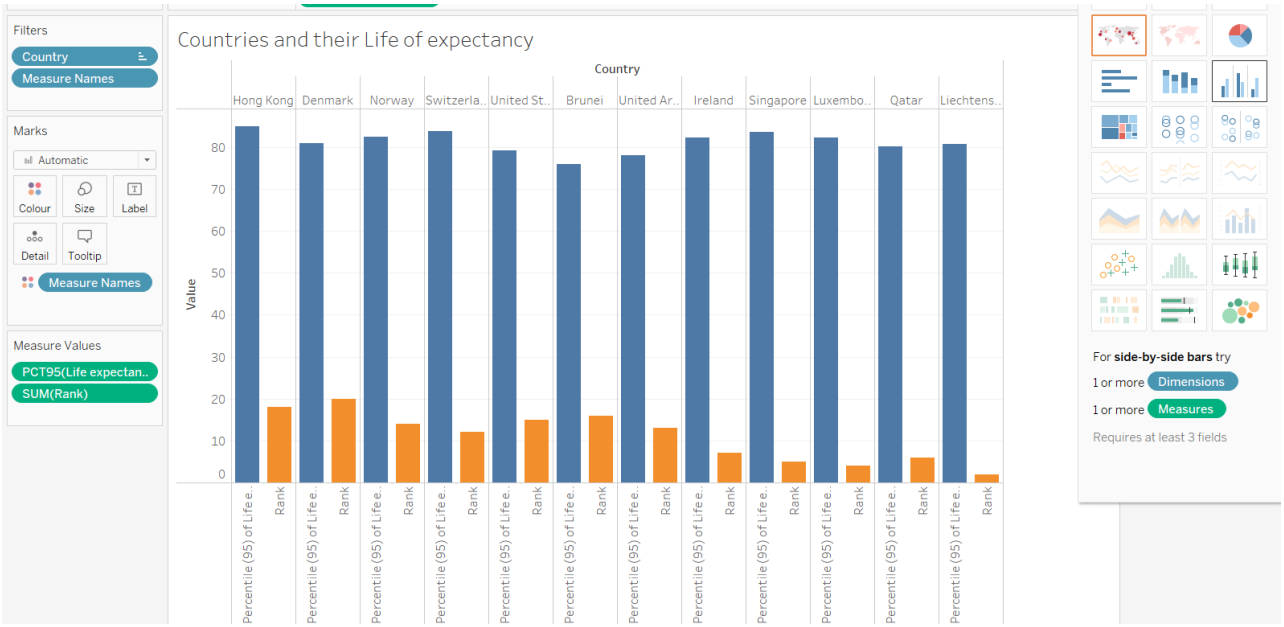


FIGURE 7

This is side by side bar graph. It has 1 and more dimensions AND 1 or more measures. It gives us more enhanced graphical view in terms of Life expectancy and their respective ranks. Viewer have multiple choices and can derive meanings according to their requirements.

https://public.tableau.com/app/profile/farhan.khan6137/viz/CountriesRankingandifeExpectance/Countrieswithlifeofexpectancy?publish=yes

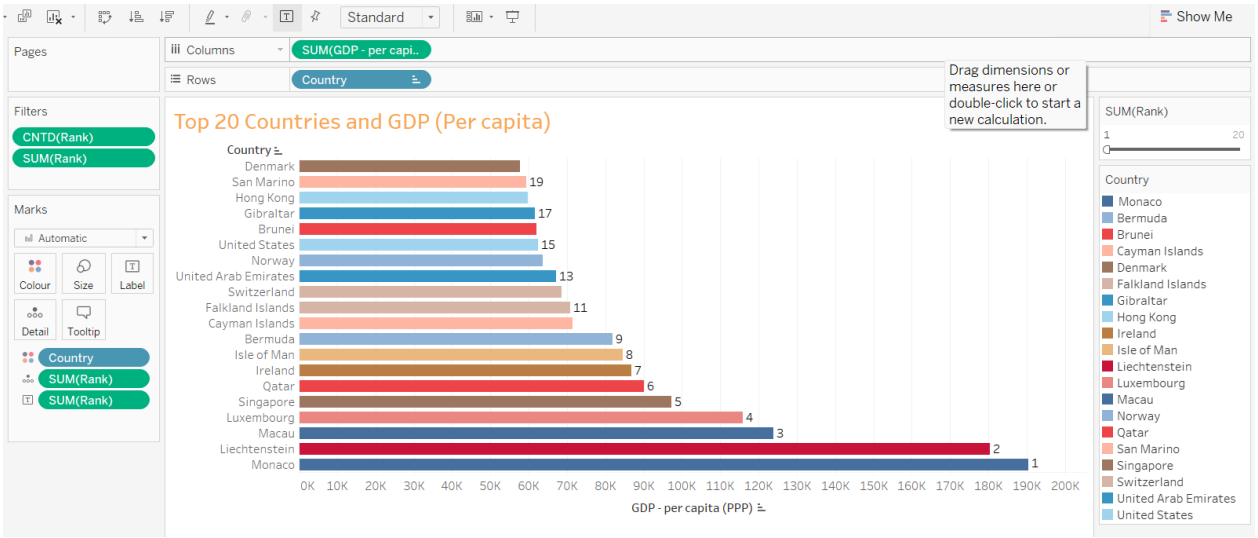


FIGURE 8

GRAPH OF TOP 20 COUNTRIES AND GDP

This graph has 20 top countries according to their GDP growth. I used various tools like Tooltip , Color enhancements, label format etc.

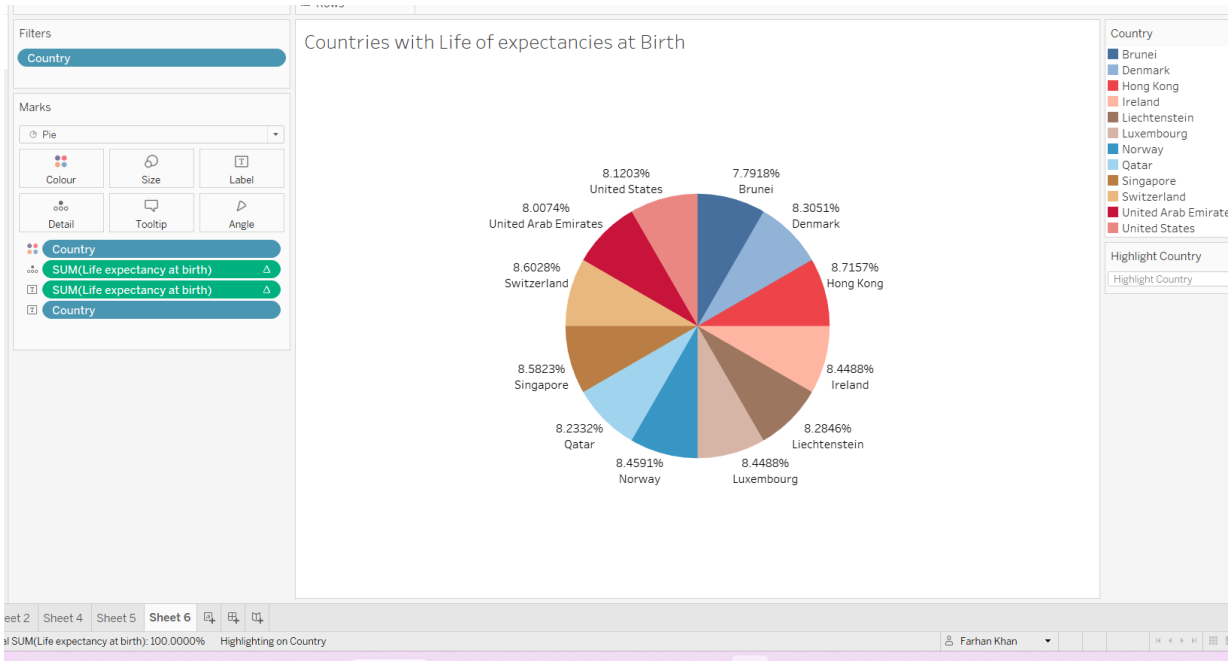


FIGURE 9 PIE CHART

This picture shows the Pie chart. Another useful information to display which contains the percentages of different countries from table/chart , that has NO null values.

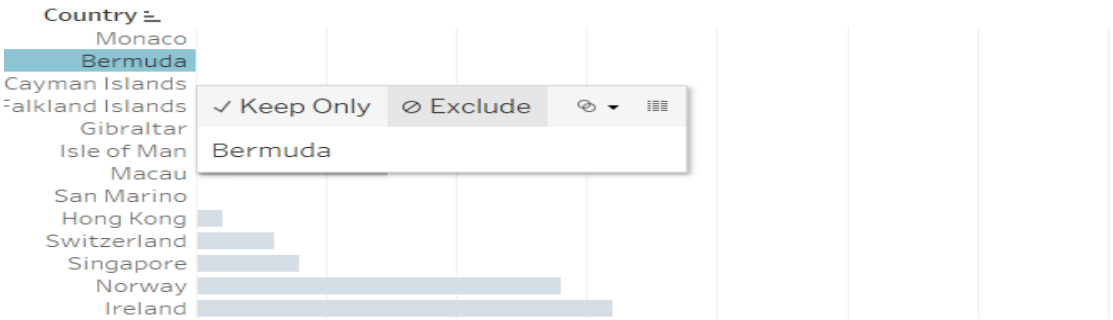


Figure 10 Handling Null values

This snap shot deals how to deal with Null values. We have to exclude the Null values from graph. This is acceptable format in order view the graphs.

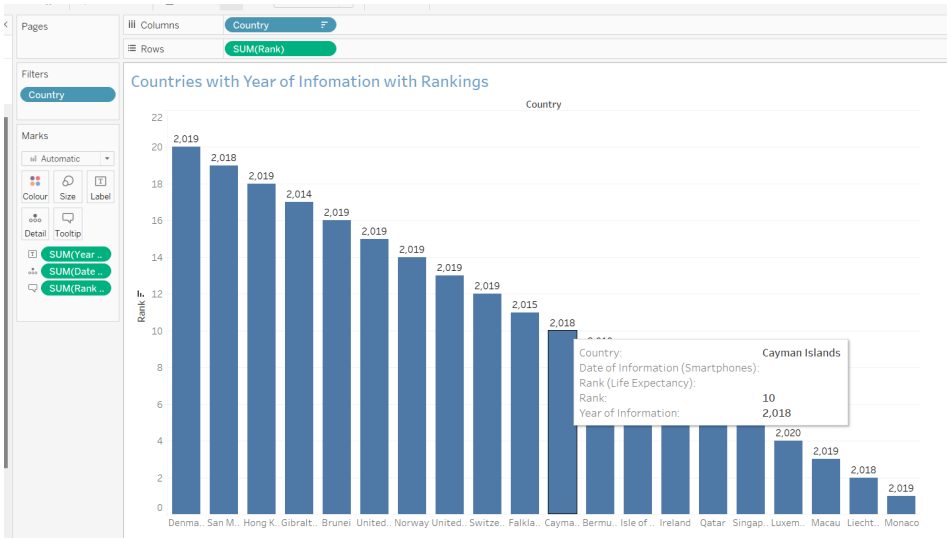


FIGURE 11

This Picture shows Countries with year if Information given in the data. I also highlighted Tooltip information in the figure to visible more information. This helps us insight data for historical data which would useful for future making decisions.

Dashboard in Tabluae:

The client is colour blind and requested to bear this in mind when building your dashboard. The client is only interested in the top 20 highest ranking countries.

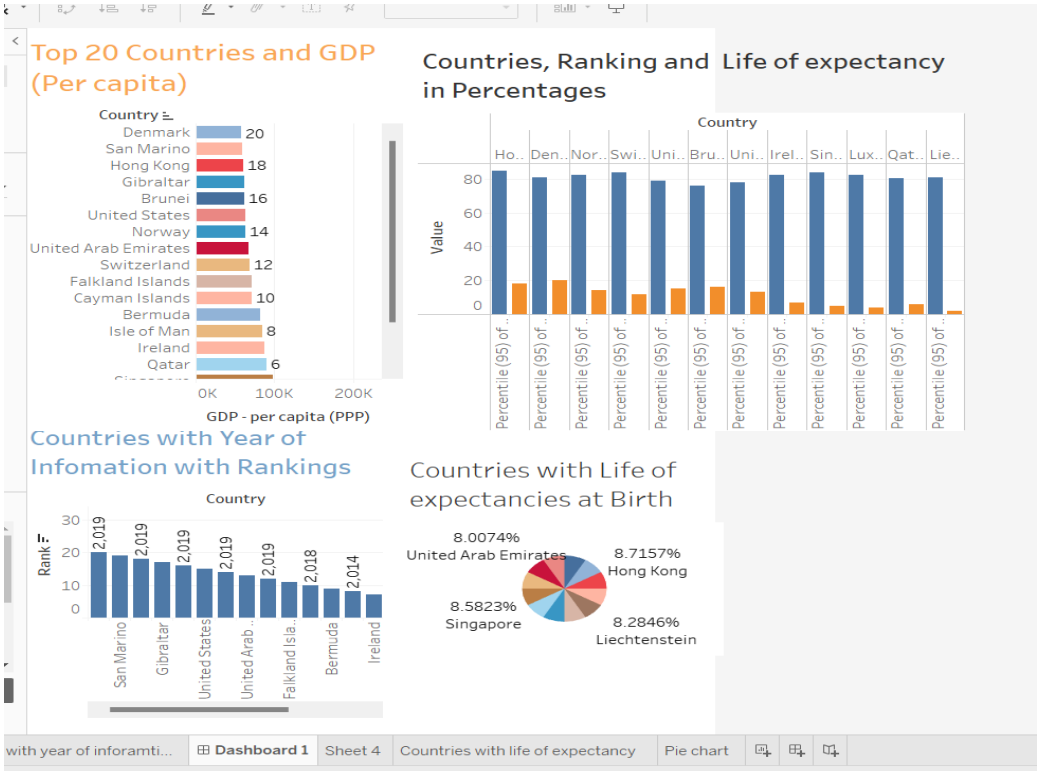


FIGURE 12 DASHBAORD

This is dashboard in Tabluae contains all the relevant information. This consists of 4 charts/graphs.

https://public.tableau.com/app/profile/farhan.khan6137/viz/GDP_16761444305890/Dashboard1