Data Structures in Excel and Tableau

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# Task 1

## Policies and procedures

When working with data, especially datasets like "The Wealth of Nations," it is crucial to adhere to certain policies and procedures to ensure ethical, legal, and responsible use of the information. Here are some key policies that data analysts should know.

Firstly, we need to consider Data Privacy Policy; without asking to share someone’s personal info is not appropriate.

Secondly, we need to ensure that data is used ethically, responsibly and kept safely. Following Data Security Rules is essential in order not to get into a trouble. If we do not follow them, then data can be open to an authorized assess and destruction, which will potentially cause losing companies’ reputation.

Additionally, we also need to follow Data Quality Assurance policy to ensure if the data we are working with is accurate, reliable and relevant. It is essential to get more accurate and trustworthy insights and prevent errors.

Furthermore, we need to consider Data Retention and Disposal Policy while working data to define how long should it be stored and when it should be securely disposed of.

As a data analyst, being aware of and adhering to these policies and procedures is essential for conducting ethical and responsible data analysis.

Bottom of Form

## Excel

A screenshot of a computer

Description automatically generated

In this screenshot I am setting a password to protect the workbook.

A screenshot of a spreadsheet

Description automatically generated

This is how I am using filters to choose only year 2019 and turning the GDP sheet into a table. I also changed currency to British pound.

A screenshot of a spreadsheet

Description automatically generated

This is a filtering for top 20 ranking country.

A graph of a number of people

Description automatically generated with medium confidence

In this evidence, it shows how I created a chart using Rank, Country and GDP- per capita columns and edited title, X, Y axis labels.

A screenshot of a graph

Description automatically generated

This is the last version of my chart after making it visually pleasing.

A screenshot of a spreadsheet

Description automatically generated

In this last screenshot I created anew chart and placed it under the table, coloured the background.

## Evaluation of the project

In this task, I followed the instructions provided to me and considered the client’s requirements, which included ranking the top 20 countries in my visualization. One positive aspect of the task is maintaining consistency throughout the creation of my chart. I ensured uniformity in font size, font theme, and colour scheme, keeping everything simple and pleasing to the eye.

To improve this work, I can consider whether a different type of chart might better convey my message. Also, I could include a brief description or key findings to give viewers context about what the chart represents and why it's important.

I leaned how to filter data, turn it into table, make different types of charts and so on.

# Task 2

## Tableau

A screenshot of a computer

Description automatically generated

Here I was setting relationship between 3 tables using the common column called “Country”.

I also checked the data type for each column and got familiarized with the content.

A screenshot of a map

Description automatically generated

I used GDP worksheet to create these charts. This map shows GDP rank for countries based on their GDP per capita. I used tooltips also to give extra information, such as GDP per capita. The colours pattern based on Colour Blinds palette. I selected top 20 ranking countries.

A screenshot of a computer

Description automatically generated

This horizontal bar shows Average GDP per capita for top 20 ranking countries. Colour Blind is followed. I labelled the bars.

A screenshot of a computer

Description automatically generated

To create this bar chart, I created calculated field for GDP per capita. Please see the evidence for it below:

A screenshot of a computer

Description automatically generated

Then used it to categorize top 20 countries for GDP per capita.

A graph on a white background

Description automatically generated

In this line chart I compared GDP per Capita by years and applied a reference line.

A screenshot of a computer screen

Description automatically generated

Using those 4 visualisations I created a dashboard. It has a clear title and useful fillers, such as filtering all the charts for countries, years, and average GDP per capita.

Taking accessibility into consideration, I incorporated a colour-blind parameter. Please see screenshots below:

A blue and white rectangular object

Description automatically generated

The screenshot below shows how I handle with null values

A screenshot of a computer

Description automatically generated

Second Dashboard

This dashboard contains data from all three tables.

A screenshot of a computer screen

Description automatically generated

Let’s explore it by separating it into details.

In the first chart (tree map) I matched Average Smartphone Users and Countries by 20 top ranking countries.

A screenshot of a computer

Description automatically generated

Scatter Plots represents GDP and Life Expectancy at birth.

A screen shot of a graph

Description automatically generated

To create horizontal charts, I used GDP grouped calculated field from GDP table and matched it with Average Smartphone users.

A screenshot of a computer

Description automatically generated

To create the chart below I created a grouped life expectancy at birth field in Life Expectancy table and matched it with Count Life Expectancy at birth.

A screenshot of a computer

Description automatically generated

Please see the evidence below how I created grouped field for Life expectancy at birth field.

A screenshot of a computer

Description automatically generated

## Evaluation of the project

I successfully adhered to the client's requirements, including ranking the top 20 countries and applying a colour-blind palette consistently across the entire project. The dashboards are well-titled, and each bar within charts has its own informative title. Additionally, I implemented filtering mechanisms that can be seamlessly applied across all charts for enhanced interactivity.

To offer a diverse view, I utilized various visualizations such as bar charts, maps, and line graphs. Employing different aggregations, including averages, and creating calculated fields to categorize countries based on GDP and grouped field for Life Expectancy at birth.

Consistency throughout the design was considered, such as using the same colour pallet.

Dealing with null values was effectively addressed, ensuring data integrity.

To improve these dashboards, I can include additional contextual information or insights to guide users. This could be in the form of annotations, captions, or a summary.

I learned how to make relationship, create calculated fields, applying filters, creating a dashboard, applying colour blind palette, handling with null values, applying a reference line and so on.