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The Wealth of Nations

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# Policies and Procedures

Data analysis plays a vital role in organizations, as they provide valuable insights for decision-making processes. However, to ensure the ethical, legal, and responsible handling of data, data analysts must follow a set of well-defined policies and procedures.

The General Data Protection Regulation (GDPR) is a data protection law enacted in the European Union (EU) to ensure the safeguarding of individuals' personal data and privacy. It is centred upon several core principles that organizations and data analyst are obligated to follow when processing data.

Data analysts must ensure data privacy, committing to handling personal data with care and respect as they are crucial in safeguarding individuals’ private and sensitive information. Explicit and informed consent from individuals must be recorded before the collection and processing of their data in order to foster transparency and trust. Individuals are also entitled to access, change and delete their data if they wish it and as those in charge of handling such data, data analysts should be aware of requests and be prepared to respond appropriately.

Additionally, GDPR promotes data minimisation in order to encourage businesses and organisations to collect data that is strictly necessary for their intended purposes. Not only does this ensure data minimisation but it also means that there is no build-up of unnecessary data which could lead to inefficient data management. Furthermore, analysts are responsible for the secure storage and transmission of the data they are handling. As such, it is crucial to implement security measures to prevent data breaches and unauthorised access e.g., creating passwords for files.

It's crucial for data analysts to be aware of and follow these policies and procedures because mishandling data can have serious consequences, including legal and ethical issues, damage to an organization's reputation, and financial penalties. Additionally, respecting data privacy and following regulations like GDPR is essential for maintaining trust with individuals whose data you are analysing, as well as ensuring that your analyses are based on ethically sound principles.

The procedures that data analysts should follow when analysing data include, data quality, data collection, data transformation, visualisation, and reporting.

Data quality is made up of six key steps:

1. Accuracy – is the data collected accurate to what is trying to be measured? E.g., appropriate data type
2. Duplicates – delete any duplicate data records
3. Complete – is the data set a complete data set?
4. Valid – is the data being collected in a valid form?
5. Time – ensure you have the most recent version of the data
6. Consistency – has the data been recorded consistently, e.g., 1,2,3 not one,2, three

Visualising the data allows us to easily see trends and patterns in the data and to present complex data in a visually simple and digestible way that is quick to effectively understand. This is especially important when reporting for data analysts as they communicate with stakeholders to present their findings. Therefore, the insights gathered need to be relayed in non-technical terms.

# Data Visualisation

# Excel

Attached to email – workbook password 1234

# Tableau

<https://public.tableau.com/views/WealthofNations_16948145822650/WealthofNations?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link>

# Reflective

Working in excel solidified my knowledge in sorting and filtering data in tables as well as producing charts from the dataset. As I was unfamiliar with macros before joining the course, the chance to have practice with a newly learned skill was helpful as now I feel confident in my ability to create macros and assign them to objects.

Visualising the data in Tableau alerted me to the fact that I need to study more on the appropriate charts to pair with what is trying to be measured. Additionally, having never used Tableau previously, I found that it was easy to experiment with it. However, I feel more practice is needed with Tableau in order to for me to feel confident in using it to analyse data. From the dashboard I created, I concluded that China and India were the countries with the largest amount of smartphone users. From this, it may be beneficial for smartphone companies to focus on bringing more of their products to those countries as the demand for their products and services are high. Looking at the other charts, Hong Kong and Japan had the highest life expectancy. This could be useful to medical companies as they may have an interest in conducting research looking into the lifestyle habits of the people living in both of those countries, especially as those countries are geographically close to together. From the chart ranking the top 20 countries by GDP, Monaco was highest and from looking at the bar chart the 5th highest country was approximately half the GDP as Monaco, which displayed the large difference between Monaco and the rest of the world in terms of GDP.