1. Gathering

This is the stage where raw data is collected from various sources. It involves ensuring the completeness and relevance of the collected information.

- **Activities**:
    - Identifying data sources (e.g., World Bank, Ireland's CSO).
    - Downloading raw datasets (e.g., economic indicators, population statistics).
    - Ensuring data from all required years (2013–2023) is included.
- **Example from Report**: The dataset for this project was sourced from platforms like the World Bank and Ireland's CSO, including metrics such as GDP, CO2 emissions, and life expectancy.

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2. Processing

In this stage, raw data is cleaned, standardized, and integrated to ensure consistency and usability for analysis.

- **Activities**:
    - Handling missing values (e.g., interpolation for life expectancy data).
    - Converting units (e.g., GDP in billion US dollars, CO2 emissions per capita).
    - Filtering data for the relevant time period (2013–2023).
- **Example from Report**: Missing migration data was filled with average values, and GDP and CO2 emissions were converted into consistent units.

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3. Analysing

The processed data is examined to extract patterns, correlations, and insights. This stage often involves statistical or computational methods.

- **Activities**:
    - Calculating trends (e.g., annual GDP growth of 7.94%).
    - Identifying correlations (e.g., between GDP growth and unemployment reduction).

    - Highlighting anomalies or significant changes (e.g., CO2 emissions declining post-2015 Climate Action Act).
- **Example from Report**: Analysis revealed GDP growth and improved life expectancy correlated with reduced poverty.

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4. Presenting

The analyzed data is visualized or summarized in a way that communicates insights effectively to stakeholders.

- **Activities**:
    - Creating dashboards and charts (e.g., multi-axis line graphs for combined trends).
    - Designing user-friendly visualizations with color-coding and tooltips.
    - Writing reports that integrate visual findings.
- **Example from Report**: Tableau dashboards visualized trends such as unemployment, CO2 emissions, and population growth.

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5. Preserving

The final stage involves storing data and insights for future reference or use, ensuring its accessibility and security.

- **Activities**:
    - Archiving cleaned datasets.
    - Documenting metadata (e.g., sources, transformations applied).
    - Ensuring datasets comply with privacy regulations like GDPR.
- **Example from Report**: Cleaned and processed datasets were preserved to maintain temporal alignment and consistency across indicators.