

32146 Assessment Task 3:

Applied Data Visualisation

Sample Dataset:

This assessment requests you to visualise the **Australia International Trade dataset (from ABS)** that contains over 30 years of data between 1988 and 2022. The dataset has import and export information including 10 main categories and 67 sub-categories. Combined with data visualisation techniques learned during classes including interactive visualisation skills, you should create the statistical patterns and analytical patterns between main categories and sub-categories for both import and export. The visual comparison between import and export should be created for both the main categories and selected sub-categories. Explain any trend and breakthrough point. You can use all data attributes for this assessment. Dataset can be downloaded from the Canvas.

Data Preparation:

Task 1. Understand the sample trade dataset and its characters, styles, patterns. Merge import and export dataset together and rescale, reform, clean up the data.

Task 2. Create two new patterns for measuring statistical results and analytical results within the import and export category and sub-category, in yearly time series. Reformat data for comparison between import and export both category and sub-category

Visualisation Technique 1. Time Series Charts

Task 3. Import patterns into visualisation software such as Tableau or PowerBI. Then **create time series charts** for comparing between import and export for the TEN main categories from the dataset.

Visualisation Technique 2. Interactive Chart

Task 4. Create **interactive charts** exploring details of trade for the **TEN** main categories. Find any trend and breakthrough point in interactive charts, then explain what you have found and how that has happened.

Task 5. Create **analytic charts** to focus the details of **ONE** main categories and its sub-category. Using trend analysis to find out what you have found and how that has happened.

Visualisation Technique 3. Visual Dashboard

Task 6. Create a **visual dashboard** that combines time series chart and interactive chart together for **ONE** main category and its sub-category.

Data Storytelling: Visual Storyboard

Task 7. Create a visual storyboard for **ONE** main category to illustrate relationship between those trends and breakthrough points.

Summary: Visual Dashboard & Visual Storyboard

Task 8. Write a summary for the visual dashboard and story board highlights and advantages.

Findings and Recommendation

Task 9. Write a report to summarise the results of visual analytics for selected categories. Any **recommendation** should consider the Australian local industry's impacted.