

# IDEAS

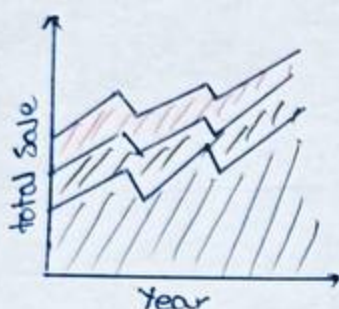
## 1) Choropleth Map



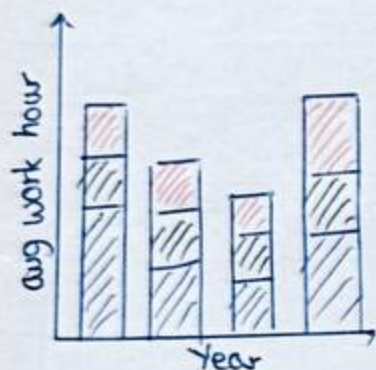
## 2) Heat Map



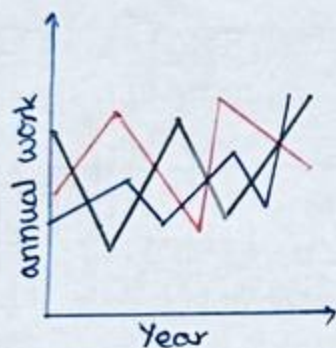
## 3) Area Chart



## 4) Stacked Bar Chart



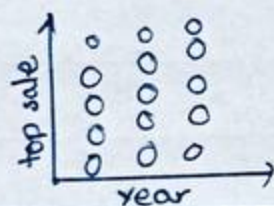
## 5) Line Chart



## 6) Pie Chart



## 7) Bubble Chart



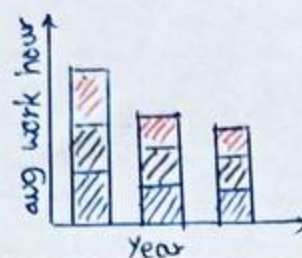
# FILTER

## 6) Pie Chart :



Pie charts can be difficult to interpret accurately, especially with many segments. They don't effectively compare multiple categories.

## 4) Stacked Bar Chart :



It can be similar to area charts in showing cumulative data and can often be difficult to read when comparing multiple categories.

# CATEGORIZE

Total Retail Sale in Australia



Different types in Industry



Avg Work Hour in Industry



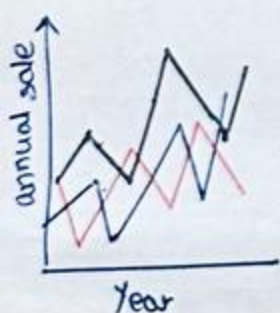
Annual Sale / Industry Employment

# QUESTION

- 1) Are the visualisations clear and comprehensive enough?
- 2) Is there any critical data or perspective missing?
- 3) Is it easy to compare different types in industry?
- 4) What are informations that fit more in visualisation?

# COMBINE & REFINE

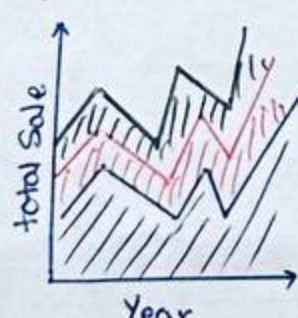
## 5) Line Chart



+ 5) Stacked Bar Chart = 3) Area Chart



=



This combination allows us to display trends over time while also showing the composition of different categories (types of industry) within those trends.



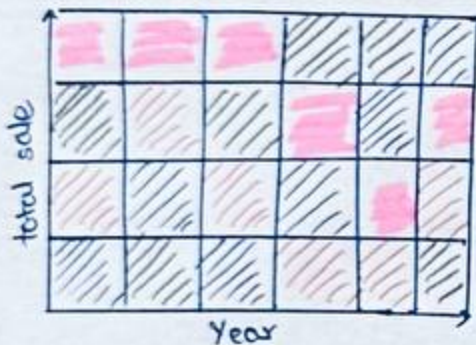
# LAYOUT

## Visualisation of Industry in Australia Overview

### 1) Choropleth Map



### 2) Australia Map (Heat Map)



Title: Visualisation of Industry in Australia

Author: Pisey Chea

Date: 12/10/24

Sheet: 2

Task: FIT3179 Assignment 2

## OPERATION

- Choropleth Map: Core map indicating sale distributes.
- Heat map: Overlay showing activity density
- Operations:
  - + Hover over a region: Displays retail sales figures and details about the region
  - + Click on a region: Opens a sidebar or modal with more detailed statistics (e.g. category breakdown, trends)
  - + Toggle heat map: Users can see or hide the density overlay for clearer visualisation and easy to analyze (comparison).

## FOCUS

Name: Retail Activity Visualisation

Essence : The primary goal is to visualize the distribution of retail sales across Australia, allowing users to easily identify regions of high and low activity.

Description : For choropleth map showing colored regions with a color legend. For heat map, it transparent layer indicating intensity over the choropleth map, enhancing the visual understanding of retail activity.

## DISCUSSION

- Advantages:
  - + Effective Data Presentation: Clearly show regional differences in retail performance, making it easy to identify trends.
  - + Combined Insights: Utilizing both maps provides a richer context for analysis.
- Disadvantages:
  - + Complexity of Interpretation: Users may misinterpret overlapping colors if not designed carefully.
  - + Potential Overcrowding: Too much information on the same map can lead to confusion or visual clutter.



# LAYOUT

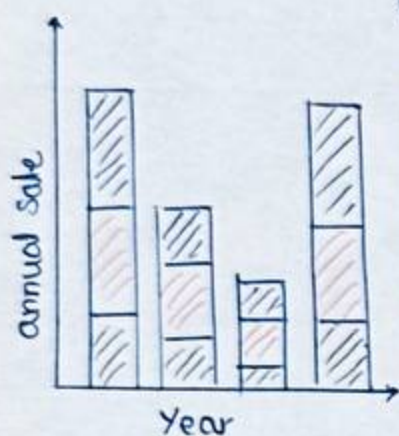
## Visualization of Industry in Australia

### 1) Australia Map (Heat map)



A detailed map of Australia divided into its states and territories, with each state highlighted to indicate sales performance.

### 2) Stacked Bar Chart



A bar chart that displays total sales figures for each state segmented by retail categories (e.g. food, clothing, household goods).

Title: Visualisation of Industry in Australia

Author: Pisey Chea

Date : 12/10/24

Sheet : 3

Task : FIT3179 Assignment 2

## OPERATION

### - Australia Map:

- + Color Legend: Indicates what colors represent.
- + Interactive States: Users can hover over or click on states for more details.

### - Stacked Bar Chart:

- + X-Axis: Represents the states
- + Y-Axis: Total sales figures
- + Data segment: Different colors in different categories

### - Operations:

- + Dropdown menu for selecting different retail
- + Option to filter by time (e.g. monthly, yearly)

## FOCUS

Name: State Retail Performance Visualisation

Essence: The primary goal is to visualize the performance of the retail industry across different states in Australia, providing insights into sales distribution and categories segmentation.

Description: For Australia map, central visualization with highlighted states and interactive elements. For stacked bar chart, positioned alongside the map, with each bar representing a state, clearly showing the breakdown by retail category.

## DISCUSSION

### - Advantages:

- + Geographical Context: The map provides immediate geographical context, enhancing understanding of regional performance.
- + User Engagement: Interactive elements encourage user exploration and engagement with data.

### - Disadvantages:

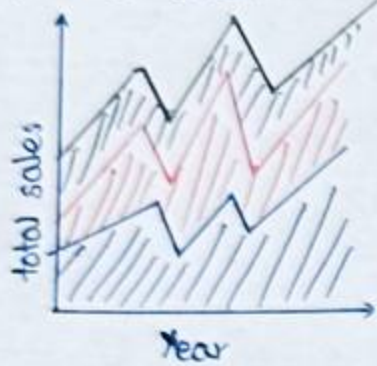
- + Clutter Risk: The stacked bar chart may become cluttered if there are too many categories.
- + Color confusion: Users may struggle to distinguish between similar colors in the stacked bar chart, particularly for those with color vision deficiencies.



# LAYOUT

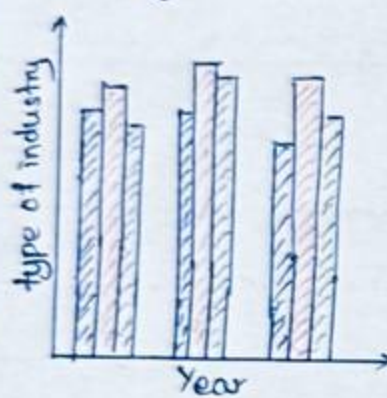
## Visualisation of Industry in Australia

### 1) Area Chart



A line graph that fills the area beneath the line, illustrating changes in retail sales over time for different categories.

### 2) Histogram



A bar graph that shows the distribution of retail sales data across the different ranges (bins) of sales figures.

Title : Visualisation of Industry in Australia

Author: Pisey Chea

Date: 12/10/24

Sheet : 4

Task : FIT3179 Assignment 2

## OPERATION

### - Area Chart:

- + X-Axis: represents time
- + Y-Axis: total sales figures, potentially in millions.
- + Color Coding: different colors each category

### - Histogram:

- + X-Axis: represents ranges of sales figures
- + Y-Axis: frequency of states or regions
- + Bars: height of bars indicate number of states

### - Operations:

- + Select a category: reflect category's data
- + Click on a bar in the histogram

## FOCUS

Name: Sales Trends and Distribution Visualisation

Essence: The primary goal is to visualize both the trends in retail sales over time and the distribution of sales figures across different categories, enabling users to identify patterns and outliers.

Description: For area chart, central visualisation with filled areas representing different categories, showcasing trends over time. For histogram, positioned alongside the area chart, illustrating the frequency of sales figures in distinct ranges.

## DISCUSSION

### - Advantages:

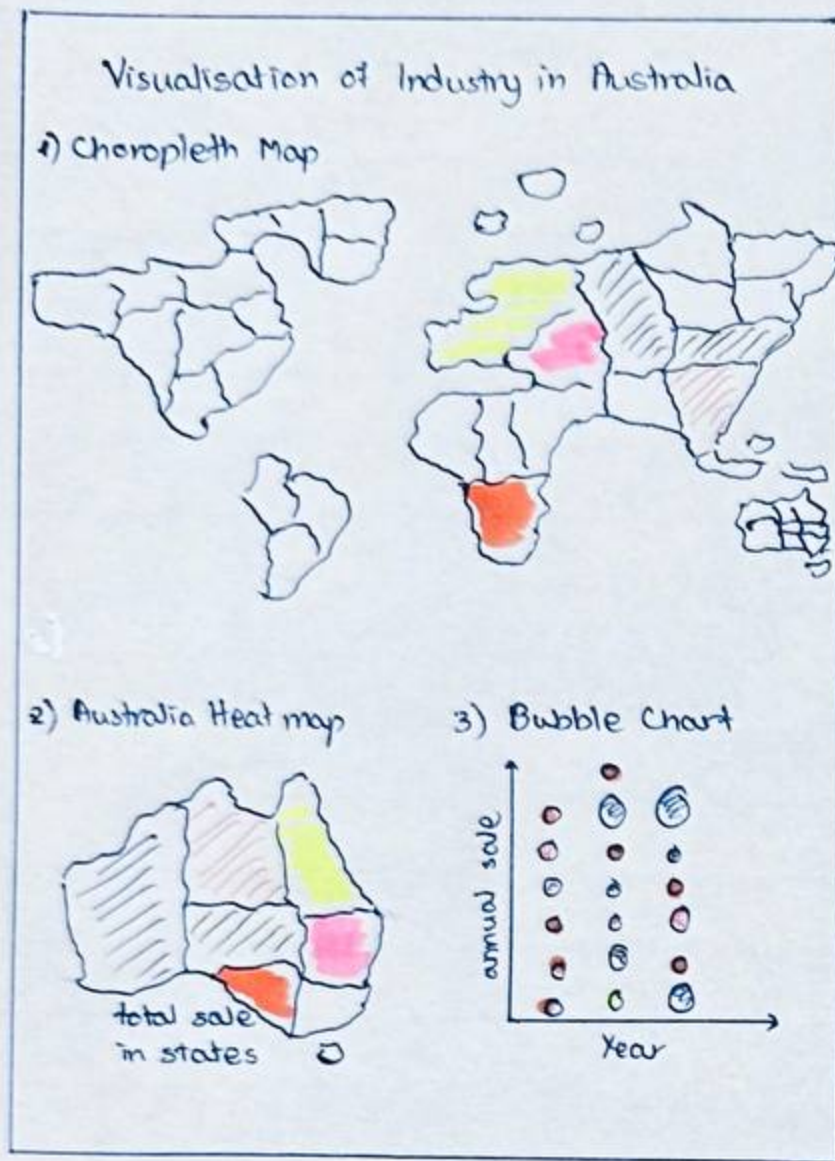
- + Clear trend visualisation: the area chart effectively shows trends over time, making it easy to see increases or decreases in sales.
- + Interactive Engagement: Features allow users to explore the data interactively, more understanding.

### - Disadvantages:

- + Complexity with multiple categories: if too many categories are shown in the area chart, it can become cluttered and difficult to interpret.
- + Bin selected impact: the choice of bins in histogram can impact the interpretation of data.



# LAYOUT



Title: Visualisation of Industry in Australia

Author: Psey Chea

Date: 12/10/24

Sheet : 5

Task : FIT3179 Assignment 2

## OPERATION

- Choropleth map :

- + display country-wise retail sales data
- + features interactive tooltips for detailed data

- Australia Heat map :

- + color-coded grid representing sales intensity.
- + easy identification of high/low sales region

- Bubble Chart :

- + visualize the correlation between population & sales
- + each bubble represents a state with size and color

- Operations :

- + select a retail category and click on a bubble

## FOCUS

Name : Retail Activity Visualisation

Essence : The goal is to provide an interactive visualisation suite that offers multiple perspectives on retail sales data across the world.

Description : For choropleth map, visualize state-level sales data, enabling quick geographical comparisons. For heat map offers a concentrated view of sales activity, allowing users to identify areas of high and low sales. For bubble chart provides an analysis of the relationship between population and retail sales.

## DISCUSSION : DETAIL

- Algorithms :

- + determine class intervals for color coding
- + representation of data density across regions
- + calculations to size bubbles

- Dependencies :

- + html : visualise and analyze data
- + vega-lite : interactive visualizations

- Estimate of Time : about a week

- Specific Requirements :

- + right and accurate data
- + choices of chart and graph
- + design the layout and pages