

A brief description of the domain, Why and Who

This is an interactive visualisation on the Melbourne seats and Population from the year 2013 to 2016. When running a business, one of the most common dilemma business owners run into is deciding on the number of seats. Seating gives people a stopping point, whether it be for lunch, for a rest, a place to wait and meet others or simply a place to sit and take in the scenery. Therefore, my visualisation is focused on analysing and understanding the trend in number of seats in Melbourne and how population plays a greater role in determining the proportion of seats.

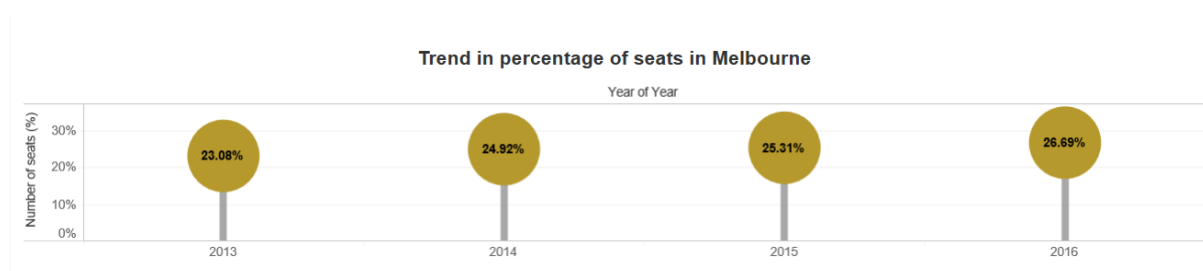
The important question that every decision maker will have when establishing a business is “How many seats would be the optimal number of seats for the business?”. Hence, this visualisation will aid decision makers to acquire profound understanding on the optimal number of seats they should consider having based on looking at the trends in the number of seats of each industry and also demographic composition in the area where the industry thrives.

What: A brief description of the data (sources, authors, relevance, creation process, etc.)

I collected two datasets: Seats dataset, which consists of the number of seats in each Melbourne areas and Industries and Population dataset, which consists of total population by age and gender in each Melbourne area. To further understand the trends in the number of seats over the years, I thought it will be useful to have population data given that with larger population in a particular area, higher number of seats are required to accommodate the large population. I acquired my seating data from melbourne.vic.gov.au website while population data from abs.gov.au website. The sources of these two datasets are mentioned in the bibliography at the end.

I merged these two datasets using R, and cleansed the file by removing information that are irrelevant for this visualisation. The final merged file is then used in tableau to create my visualisation.

How: Give a rationale for choosing the specific idioms, and explain how they help the users to achieve their tasks. Include at least one screen capture of your entire visualisation, and a description of features that are special to your visualisation



Idiom: Lollipop chart

It gives a general overview on the trend of seats over the years to the users.

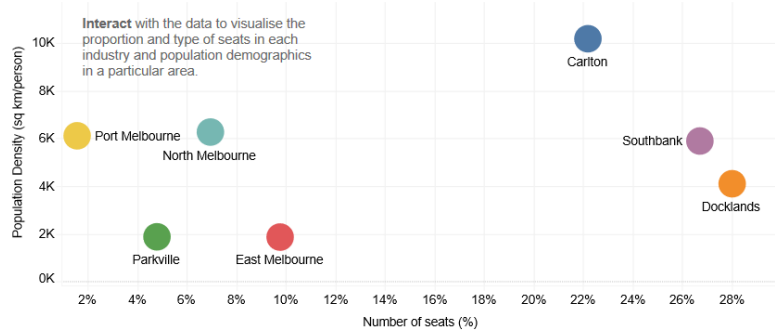
Marks: Lines

Channels: Length

Population Density vs. Percentage of seats

This analysis has been utilised to determine if there is a correlation between Percentage of seats and Population density.

Based on this visualisation, there is correlation between Population density and Percentage of seats, which is evident in areas like **Carlton** and **Parkville**. But for areas like **Docklands** and **Southbank**, the Percentage of seats are really high despite having an average population density. Overall, there is a positive relationship between Population density and Percentage of seats.



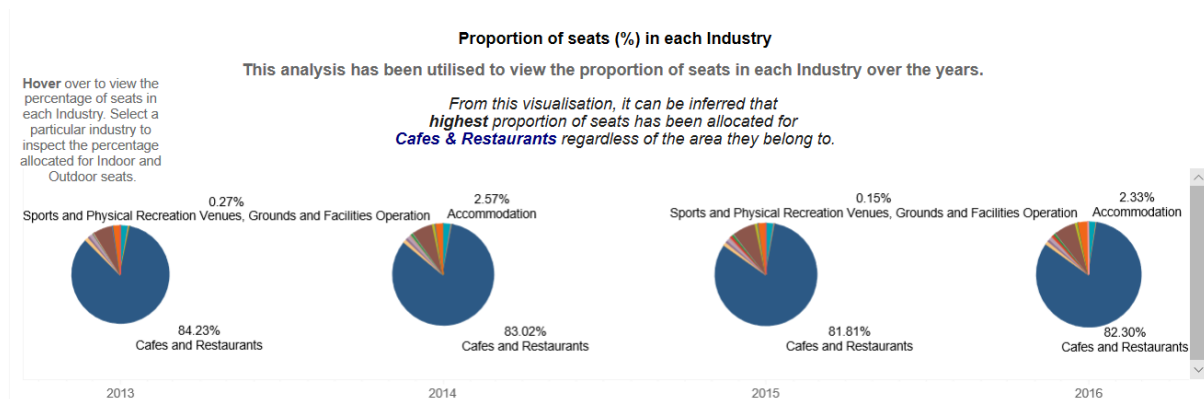
Idiom: Bubble chart

This is a main feature of my visualisation that determines if there is a correlation between Percentage of seats and Population density. This will give users a basic understanding that correlation exists between Percentage of seats and Population density given that my analysis focuses on how population plays a greater role in determining the proportion of seats.

The chart is also made interactive to allow users to visualise the changes in industry and population demographics for a selected area.

Marks: Points

Channels: Hue to represent different Melbourne areas.



Idiom: Pie Chart

Users will be able to view the proportion of seats in each industry and to examine the impact different industries has on the number of seats. At one glance, users can tell which industry has high proportion of seats and also since it is a time series visualisation, users can see the trend over the years.

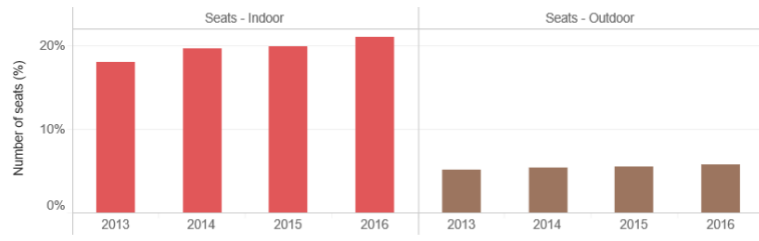
Marks: Area

Channels: Angle to represent the proportion of seats and Hue to represent different industries.

% of Indoor and Outdoor seats

This analysis has been utilised to view the proportion of Indoor and Outdoor seats

*It is apparent from this visualisation that in general there are significantly higher percentage of **Indoor** seats than Outdoor seats.*



Idiom: Bar Chart

Further classification of the seats into Indoor and Outdoor in a particular Melbourne area.

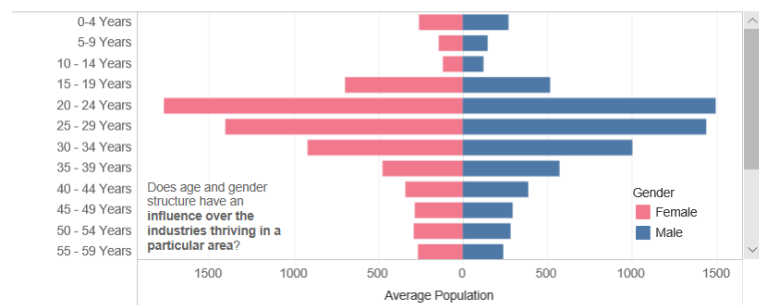
Marks: Lines

Channels: Length to represent number of seats and hue to represent type of seating.

Population Demographic

This analysis has been utilised to view the age and gender structure.

*Equal distribution of **Male** and **Female** are depicted in this distribution. The largest proportion of population is generally between 15 to 34 years old regardless of the area they belong to.*



Idiom: Diverging Bar Chart

Allows users to understand if population demographics such as age groups and gender have an influence over why certain industries are thriving in a particular area.

Marks: Lines

Channels: Length to represent average population and hue to represent gender.

The data ink ratio is moderately low because a lot of colour has been used to distinguish between different categories in the chart.

Gestalt principles for visual order has been utilised by using colour to group similar Melbourne areas and also by having explanatory text on the diagram. The background colour white is used as a design element and it also gives a clean look. The typeface used for this visualisation is Sans serif (Arial font) as it is easier to read. Key information has been bolded as well.

In terms of layout, the visualisation follows the path from upper left to lower right. I have placed the interactive chart at the visual centre of the visualisation because it is the most important chart when it comes to the analysing the factors influencing the number of seats. The visualisation is well guided such that it allows users to maximise their understanding by using this visualisation.

Bibliography

<https://data.melbourne.vic.gov.au/Economy/Cafes-and-restaurants-with-seating-capacity/xt2y-tnn9> – Seating Dataset

<https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1410.02013-18?OpenDocument> – Population Dataset