Distribution of job listings across Australia

Peimin Lin

Contents

1   Introduction

Job types, job locations, rising demand for certain job categories, these are just some of the aspects of job hunting that many working people around the world are intrigued by. In this report, you will find an in depth analysis into the distribution of job listings across Australia. The report will analyze 3 main sections of job distribution within Australia, broken down by:

1) The change in demand by job category
2) The change in demand for jobs by city
3) The change in demand by job type

Our motivation to choose this as our research topic is prompted by experiencing first hand the cataclysmic effects of the coronavirus and the impact it has had on the job market globally. It has been an unfortunate scenario to witness unemployment rates skyrocket in major cities around the world. Thus, we want to visualize the changes in demand to jobs of all types and categories in Australia, particularly in the major cities.

2   Dataset and Methodology

- Source of data. (Dewi)

- Limitations (Hanh - master)

- Methodology: How we deal with this dataset. (Peimin - master)

3   Analysis:

3.0.1   Clean the data:

```
## -- Attaching packages --------------------------------------------- tidyverse 1.3.0 --

## v tibble  3.0.1     v dplyr   0.8.5
## v tidyr   1.0.3     v stringr 1.4.0
## v readr   1.3.1     v forcats 0.5.0
## v purrr   0.3.4

## -- Conflicts ------------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()

##
```

```
## Attaching package: 'lubridate'

## The following objects are masked from 'package:dplyr':
##
##     intersect, setdiff, union

## The following objects are masked from 'package:base':
##
##     date, intersect, setdiff, union

##
## Attaching package: 'glue'

## The following object is masked from 'package:dplyr':
##
##     collapse
```

1. isolate the month + year (Hanh - master branch)

2. Missing values (Hanh - Hanh-Ngo branch)

3.0.2 Analyze the change in demand by job category) (Peimin-Peimin branch)

```
##
## Attaching package: 'kableExtra'

## The following object is masked from 'package:dplyr':
##
##     group_rows

## Selecting by number
```

There are 30 jobs category in this dataset and figure@ref(fig: category_num) list the number of jobs per category from April to November in 2018. The category of trades and services was the most popular jobs category in 2018 in Australia and information and communication technology was the second which almost the same as the first place. From labour market information portal known that those two categories has been in short supply in Australian labour market. For a better timely observation, figure@ref(fig: monthly_dirtribution) shows each jobs category requirement change in difference month which not only show the shortage job, but also show some category is becoming saturated. Meanwhile, figure@ref(fig: Month_numbercreates) a graph list top five jobs category in each month. There are 7 categories became the most frequently appeared in the list, for example accounting, administration and office support, healthcare and medical, hospitality and tourism, information and communication technology, Manufacturing, Transport and Logistics, Trade and Services. In October, there were more vacancy and labour requirement than other

Table 1:   The number of jobs per category

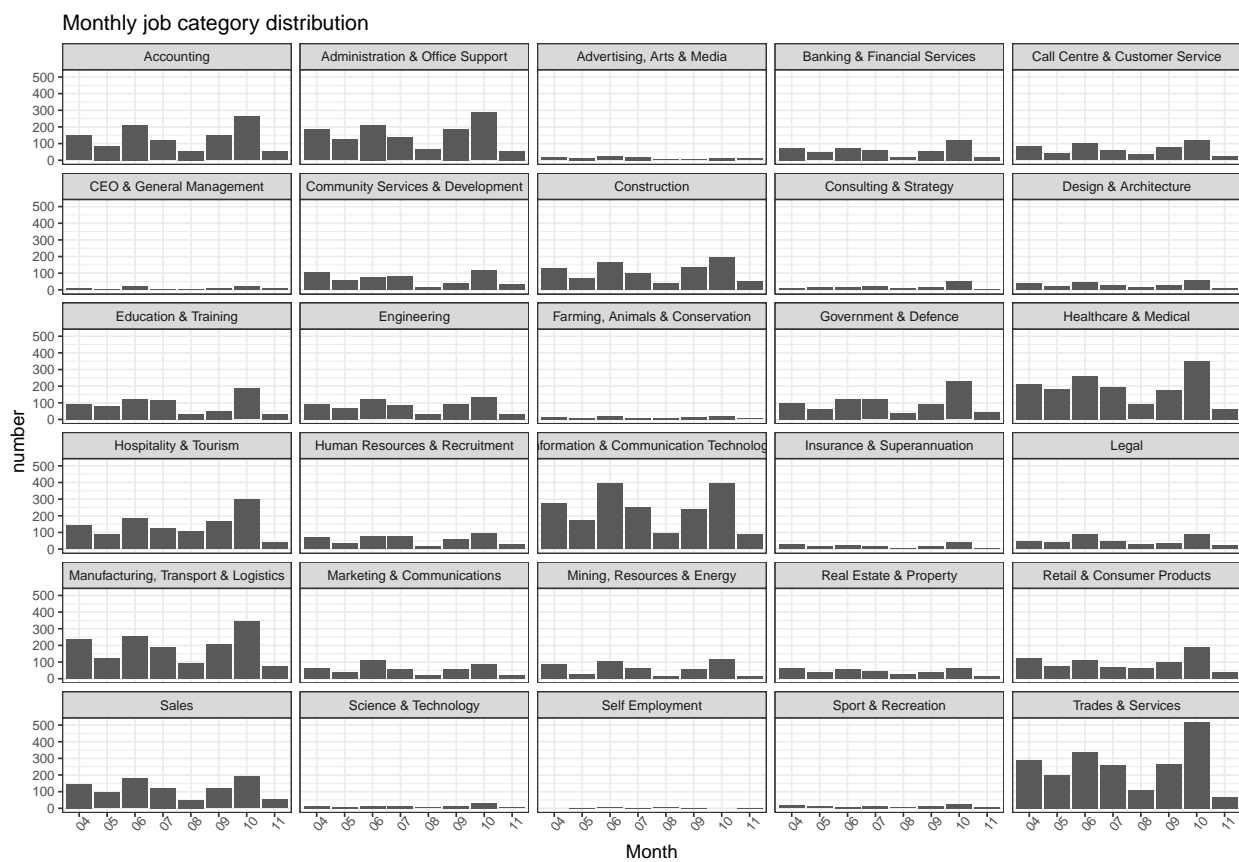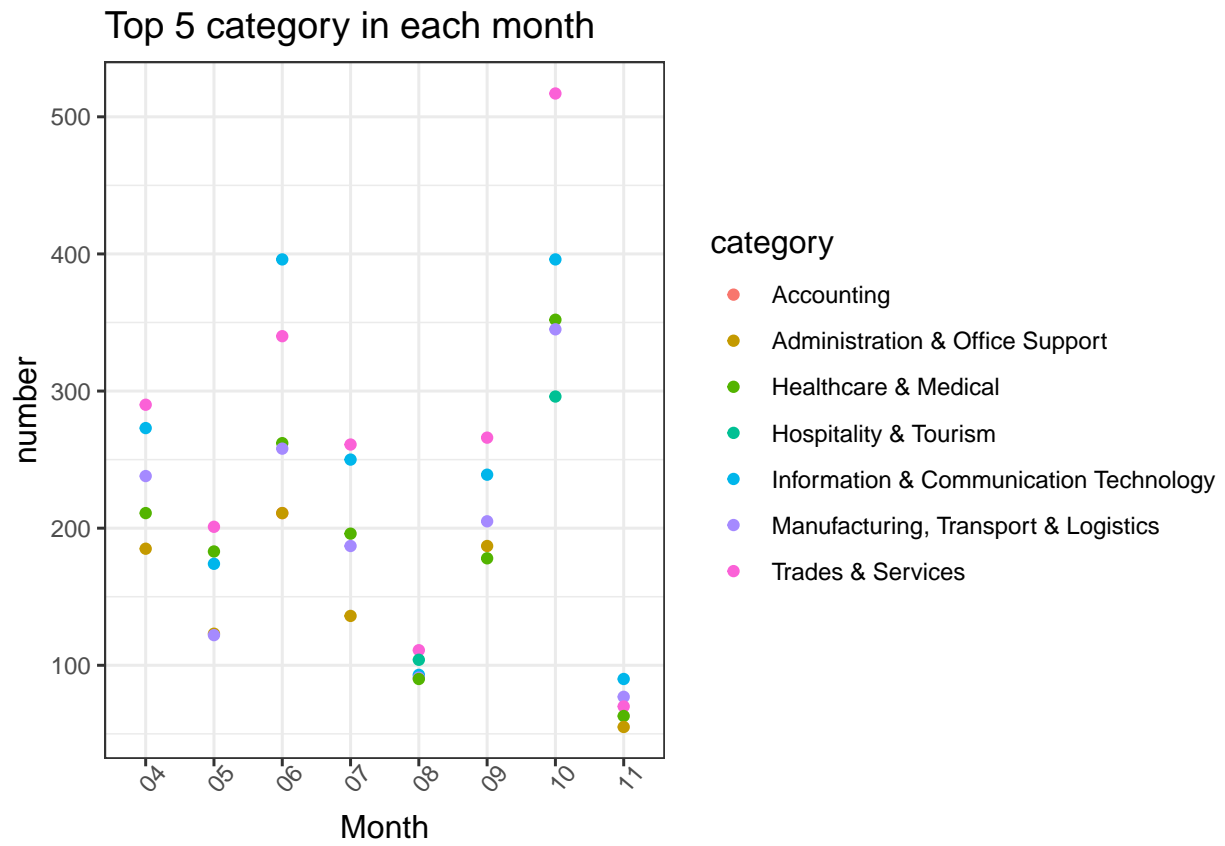| category	number
Self Employment	16
CEO & General Management	82
Advertising, Arts & Media	104
Farming, Animals & Conservation	108
Science & Technology	108
Sport & Recreation	108
Insurance & Superannuation	133
Consulting & Strategy	139
Design & Architecture	247
Real Estate & Property	352
Legal	385
Human Resources & Recruitment	448
Marketing & Communications	461
Banking & Financial Services	468
Mining, Resources & Energy	492
Community Services & Development	526
Call Centre & Customer Service	534
Engineering	665
Education & Training	723
Retail & Consumer Products	766
Government & Defence	810
Construction	894
Sales	961
Accounting	1084
Hospitality & Tourism	1141
Administration & Office Support	1250
Manufacturing, Transport & Logistics	1523
Healthcare & Medical	1535
Information & Communication Technology	1911
Trades & Services	2056

Figure 1: Monthly job category distribution

Figure 2: Top 5 category in each month

month. Forbes shown a statistics report that most industries would figure out what they need in September because holiday was coming and finish job before year-end. Thus, October became the most busiest month for recruiting.

3.0.3 Analyze the change in demand by city + life quality

1. Change in demand (Hanh)

2. How does it reflect life quality? (Dewi)

3.0.4 Analyze the change in demand by job type (Justin's branch)

4 Conclusion: (Justin - master branch)